

#### **ENSR**

10411 Old Placerville Road, Suite 210, Sacramento, California, 95827-2508 T 916.362.7100 F 916.362.8100 www.ensr.aecom.com

January 17, 2006

Mr. Craig Hunt North Coast Water Board 5550 Skylane Boulevard, Suite A Santa Rosa, CA 94503-2097

RE: Quarterly Groundwater Monitoring Results/ Remedial System Status Report

Fourth Quarter 2005 Former Unocal Bulk Plant No. 0813 122 Leslie Street, Ukiah, California RWQCB No. 1NMC405 ENSR Project No. 06940-264-100

Dear Mr. Hunt:

ENSR Corporation (ENSR) has been authorized by Union Oil Company of California (Unocal) to perform quarterly groundwater monitoring and to operate and maintain the groundwater remediation system at the site located at 122 Leslie Street, Ukiah, California (**Figure 1**). The site is a former bulk plant with a chain link fence around its perimeter. The locations of former and current site features are illustrated on **Figure 2**. Quarterly groundwater monitoring is intended to evaluate the distribution of petroleum hydrocarbon constituents in groundwater beneath the site. This report summarizes results of the samples collected from the site during the fourth quarter 2005. A section has been added to this report summarizing the status of the ozone sparging system that began operation in April 2005. The field work was performed in accordance with the field methods and procedures included in **Attachment A**.

### **Background**

Two groundwater monitoring wells (MW-7 and MW-12) were installed as part of a soil and groundwater investigation associated with the former D.Z., Inc. Bulk Plant located adjacent to the former Unocal southern property boundary at 134 Leslie Street. In 1999, a soil and groundwater investigation was conducted that included advancement of on-site soil borings B-1 through B-7. A supplemental evaluation of soil and groundwater followed that included the advancement of on-site soil boring B-8 and the installation of on-site groundwater monitoring wells MW-1 and MW-2. A further supplemental evaluation of soil and groundwater beneath and in the vicinity of the site was conducted in 2002 that included drilling eight soil borings and installing groundwater monitoring wells MW-3 through MW-6 and MW-8. A door-to-door sensitive receptor survey within a 500-foot radius of the site and an underground utility search within the vicinity of the site were conducted in 2002.

In a letter dated November 20, 2003, the Regional Water Quality Control Board, North Coast Region (RWQCB) approved a Corrective Action Plan prepared by Environmental Resolutions, Inc. (ERI) of Petaluma, California dated June 18, 2003. On May 20, 2004, the RWQCB verbally approved a remedial design plan (RDP) dated February 3, 2004 prepared by ERI and reviewed by ENSR. The approved remedial options were ozone microsparging (C-Sparge™) and soil vapor extraction (SVE).

In late July 2003, ERI installed the nine C-Sparge/SVE wells associated with the remediation system at the site. Upon review of the completion depths of the C-Sparge/SVE wells, it is ENSR's opinion that the C-Sparge wells may be set too deep to effectively remediate the groundwater beneath the site. In a telephone conversation with the RWQCB on October 14, 2004, ENSR proposed collecting groundwater samples from selected on-site C-Sparge wells for chemical analysis to determine if the groundwater has been impacted at the screened interval depths [approximately 32 to 35 feet below ground surface (bgs)] of the C-Sparge wells. Based on the analytical results, ENSR submitted a *Revised Remedial Design Plan* 

dated December 7, 2004. ENSR received a verbal approval from the RWQCB in mid-December 2004 and began implementation of the revised RDP in early January 2005.

On January 12 and 13, 2005, Woodward Drilling Company of Rio Vista, California (C-57 License #710079) advanced soil borings AS-10 through AS-18 under the oversight of an ENSR geologist. The borings were advanced using a truck mounted drill rig each to an approximate depth of 20 feet bgs using 8.25-inch diameter hollow stem augers. The soil borings were completed as air sparge wells AS-10 through AS-18. Sparge well construction details will be provided in ENSR's forthcoming Advanced Oxidation Process/ Biostimulation System and Remediation Well Installation Report.

A construction subcontractor (W.A. Craig, Inc. of Dixon, California) installed the ozone sparging system at the site in March and April 2005 under ENSR supervision. System operation began on April 18, 2005.

### **Groundwater Level Measurements**

Depth to groundwater levels were measured in monitoring wells MW-1 through MW-9 on November 16, 2005 and are presented in **Table 1**. The ozone sparging system was shut down to allow groundwater levels to stabilize prior to collecting depth to groundwater measurements. Groundwater elevations were calculated and were used to construct a groundwater elevation contour map included as **Figure 3**.

On November 16, 2005, the groundwater flow direction just east of the site was generally south-southeast with an average hydraulic gradient of approximately 0.004 feet per foot (ft/ft). Onsite, the groundwater flow direction was generally to the east-northeast with an average hydraulic gradient of approximately 0.02 ft/ft. These directions and gradients are consistent with those historically observed at the site. Copies of the groundwater sampling information sheets are included in **Attachment B**. A summary of groundwater elevation data determined to date is presented in **Table 1**.

### **Groundwater Sampling and Analytical Results**

Groundwater samples were collected from monitoring wells MW-1 through MW-9 on November 16, 2005. Groundwater samples were submitted to Alpha Analytical Laboratories in Ukiah, California (a state-certified laboratory) under chain-of-custody protocols. Samples were analyzed for benzene, toluene, ethylbenzene and total xylenes (BTEX) by Environmental Protection Agency (EPA) Method 8260B, total petroleum hydrocarbons as gasoline (TPHg) by EPA Method 8260, total petroleum hydrocarbons as diesel (TPHd) by EPA Method 8015, and total lead by EPA Method 200.9. Additionally, the samples taken from MW-1 and MW-2 were analyzed for bromate and bromide by EPA Method 300.1 with silver/barium cleanup, hexavalent chromium by EPA Method 7199, molybdenum and vanadium by EPA Method 200.7, selenium by EPA Method 200.9, and pH by EPA Method 150.1. These analytes were added to the sampling regimen to monitor for the formation of dissolved phase metals resulting from the oxidation reaction created by the ozone application. Bromate and bromide analysis was performed by BSK Analytical Laboratories, a state-certified laboratory located in Fresno, California.

TPHd was detected in monitoring wells MW-1, MW-3, and MW-4 with a maximum concentration of 10,000 micrograms per liter ( $\mu$ g/L) in MW-1. TPHg was detected in monitoring wells MW-1 and MW-3 with a maximum concentration of 360  $\mu$ g/L in MW-1. Benzene concentrations were not detected above the laboratory reporting limits in any monitoring wells sampled during the fourth quarter 2005 event with the exception of MW-1, which had a concentration of 0.41 $\mu$ g/L.

Cumulative groundwater sampling results are summarized in **Table 1**. A map depicting dissolved concentrations of TPHg, TPHd, and benzene in groundwater for the fourth quarter 2005 is included as **Figure 4**. Isoconcentration contour maps for TPHd, TPHg, and benzene in groundwater for the fourth quarter

2005 sampling event are included as **Figure 5**, **Figure 6**, and **Figure 7**, respectively. A copy of the certified laboratory analytical report with chain-of-custody documentation is included in **Attachment C**.

### **Ozone Sparging System Description**

The Advanced Oxidation Process/Biostimulation (AOP/B) system is primarily an ozone sparging system with capabilities for enhanced chemical oxidation and biostimulation through the addition of supplemental oxidizing agents and/or nutrients.

The AOP/B system delivers ozonated air from inside a modified freight container (remediation enclosure), to the subsurface via sparge tubing and PVC piping. The ozonated air is delivered through micro-porous sparge points installed in the bottom of sparge wells several feet below the water table. Ozonated air is typically delivered at flows of approximately one to five standard cubic feet per minute (SCFM) and at pressures from 7 to 25 pounds per square inch (PSI), depending on subsurface conditions. Ozone concentrations in the process flow stream typically range from 1,500 parts per million by volume (ppmv) to 10,000 ppmv.

The AOP/B system is a programmable-logic-controller (PLC) automated system capable of operating individual sparge points or several sparge points in any desired sequence. The system is equipped with an ozone sensor that transmits a signal to the PLC which is programmed to shut the system down in the event of an ozone leak within the remediation enclosure. The remediation enclosure is air conditioned and thermally insulated to maintain a constant temperature and thereby protect the electronic components. The thermal insulation also serves as a sound barrier to reduce noise levels outside of the remediation enclosure created by operation of the air compressor, air conditioner, and cooling fans.

### **Ozone Sparging System Operation**

The system currently cycles between sparge points on a 37-minute sequence per cycle. Most sparging sequences begins with five minutes of air flow, followed by 30 minutes of air/ozone flow, then followed by two minutes of air flow (to purge the conveyance piping and tubing). The PLC program executes 12 air-ozone-air cycles, shuts down for 15 minutes, and then repeats the entire sequence.

Recent modifications have been made to the PLC program to reduce the ozone loading at selected sparge points. These modifications have been implemented in areas where petroleum hydrocarbon concentrations have been reduced and further oxidation is not required. Air sparging still occurs in these areas to enhance microbial development.

Sparging is performed sequentially between sparge points to minimize the local impact on the hydraulic gradient and to prevent further mobilization of the contaminant plume. The ozone application time interval relates to the approximate time it takes for a consistent flow pattern to develop and to achieve an optimum radius of influence. The system shuts down after the entire sequence to allow the equipment to cool.

### **Ozone Sparging System Performance**

ENSR is documenting the AOP/B system performance with monthly monitoring and grab sampling at MW-1 and MW-2. Monthly samples have been collected at MW-1 and MW-2 since the system startup in April, 2005. These groundwater samples are being analyzed for TPHg, TPHd, and BTEX compounds. Additional analyses are also performed to ascertain the possible presence of dissolved metals, notably hexavalent chromium. Results for samples collected at MW-1 and MW-2 as part of the remedial status evaluation are provided in **Table 2**.



Due to inconsistent results between the monthly grab samples and the quarterly three-casing-volume purged samples, ENSR modified the monthly sampling protocol to eliminate the collection of grab samples and collect only three-casing-volume purged samples. All samples collected from MW-1 and MW-2 since August, 2005 were collected after purging according to the same protocol as the quarterly sampling. Graphs depicting TPHg and TPHd concentrations over time for MW-1 and MW-2 are included as **Figures 8** and **9**, respectively.

### **Conclusions/Recommendations**

- TPHd continues to be detected in monitoring wells MW-1, MW-3, and MW-4 with a maximum concentration of 10,000 μg/L in MW-1. TPHd was detected in eight monitoring wells in the previous quarter with a maximum concentration of 83,000 μg/L in MW-1. Dissolved concentrations of TPHd in groundwater as well as the extent of the TPHd groundwater plume are significantly reduced as compared to the third guarter 2005.
- TPHg continues to be detected in monitoring wells MW-1 and MW-3 with a maximum concentration of 360 μg/L in MW-1. TPHg was detected in three monitoring wells in the previous quarter with a maximum concentration of 2,000 μg/L in MW-1. Dissolved concentrations of TPHg in groundwater as well as the extent of the TPHg groundwater plume are also significantly reduced as compared to the third quarter 2005.
- Benzene concentrations were not detected above the laboratory reporting limits in any monitoring wells sampled during the fourth quarter 2005 event with the exception of MW-1, which had a concentration of 0.41 μg/L.

ENSR recommends continued monthly groundwater monitoring in MW-1 and MW-2 as well as quarterly groundwater monitoring to assess the dissolved concentrations of petroleum hydrocarbon constituents. ENSR personnel will meet with the North Coast Water Board in January 2005 to assess the AOP/B system performance and discuss the path toward regulatory site closure.

### **Future Work**

The next quarterly groundwater monitoring and sampling event is scheduled for February 2006. ENSR will also be monitoring performance of the ozone sparging system with monthly monitoring at MW-1 and MW-2. Quarterly updates will be provided.

### Remarks/Signatures

The interpretations in this report represent our professional opinions and are based, in part, on information supplied by the client. These opinions are based on currently available information and are arrived at in accordance with currently accepted hydrogeologic and engineering practices at this time and location. Other than this, no warranty is implied or intended. If you have any questions regarding this project, please contact Mr. Paul Wadding at (916) 362-7100.

Sincerely,

**ENSR Corporation** 

Mike Fischer, E.I.T. Project Engineer

Paul R. Wadding, P.E.

Project Manager

D. N. Peacock, Ph.D., P.G. #7801

Senior Project Manager

MF/dk

cc: Mr. John Frary, Union Oil Company of California

### **Attachments**

### **Figures**

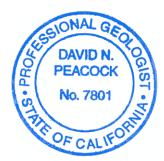
- 1 Site Location Map
- 2 Site Plan
- 3 Groundwater Elevation Contour Map, November 16, 2005
- 4 Petroleum Hydrocarbon Concentration Map, November 16, 2005
- 5 TPHd Isoconcentration Map, November 16, 2005
- 6 TPHg Isoconcentration Map, November 16, 2005
- 7 Benzene Isoconcentration Map, November 16, 2005
- 8 TPHg and TPHd Concentration in MW-1
- 9 TPHg and TPHd Concentration in MW-2

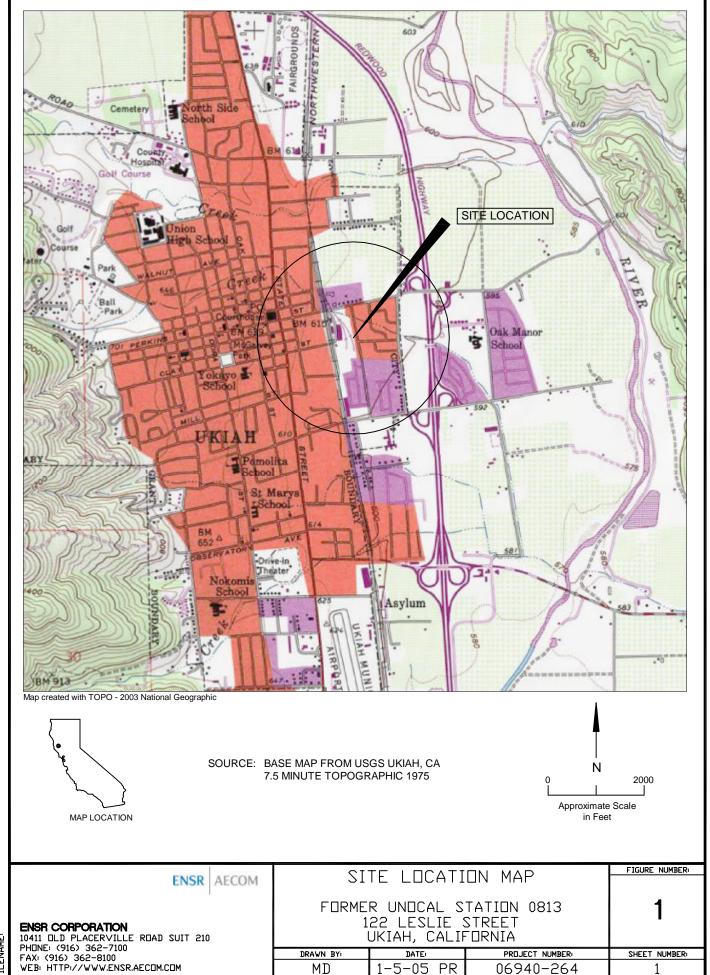
### **Tables**

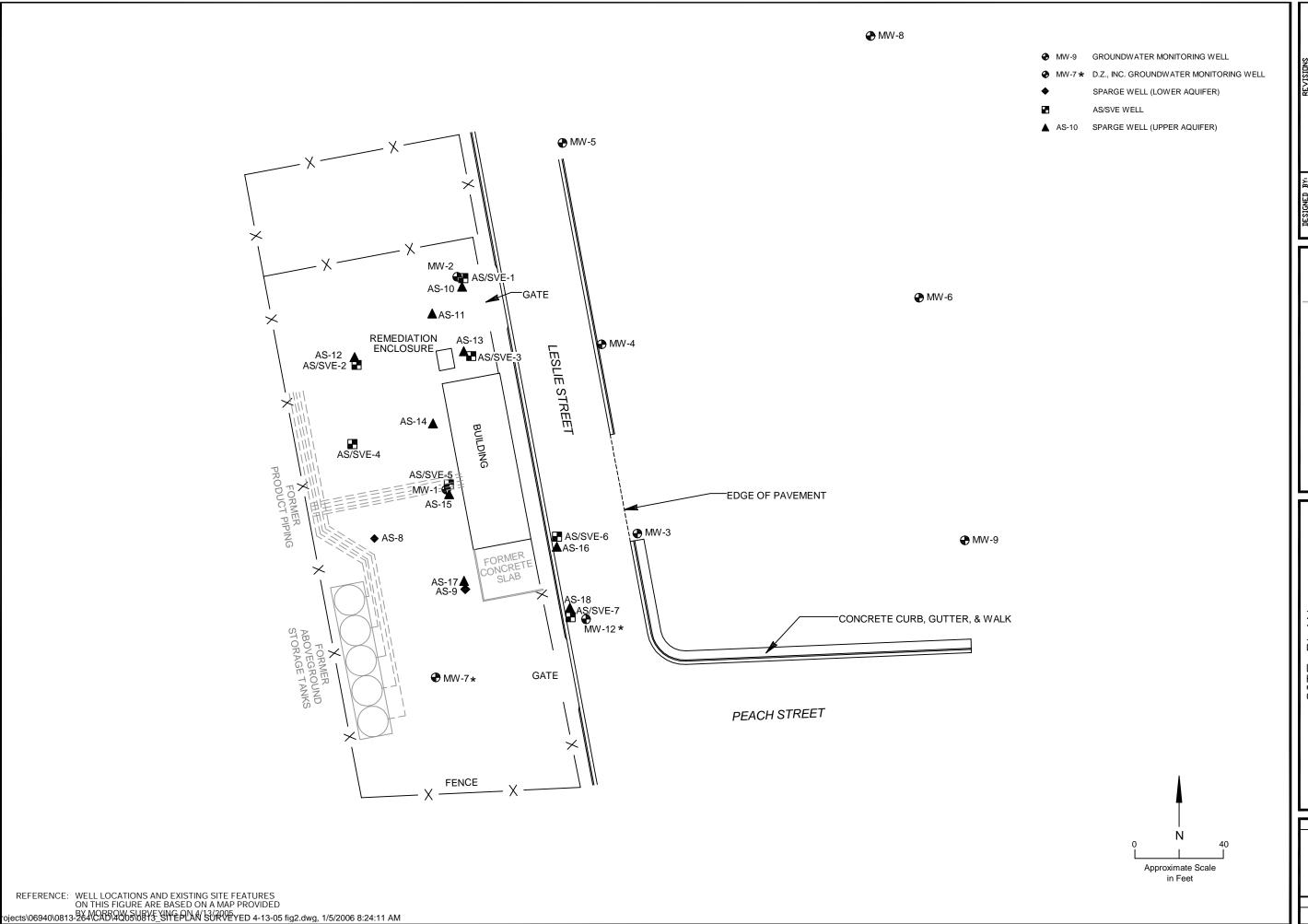
- 1 Groundwater Monitoring Data and Analytical Results
- 2 Ozone Sparging System Monitoring

### Attachments

- A Field Methods and Procedures
- B Groundwater Sampling Information Sheets
- C Laboratory Analytical Results With Chain-Of-Custody Documentation







ENSR AECOM

ENSR CORPORATION

10411 DLD PLACENVILLE RDAD SUITE 210
PHUNE: (916, 362-7100
FAX: (916, 362-8100
VEB: HTTP://www.ENSR.AECDM.CDM

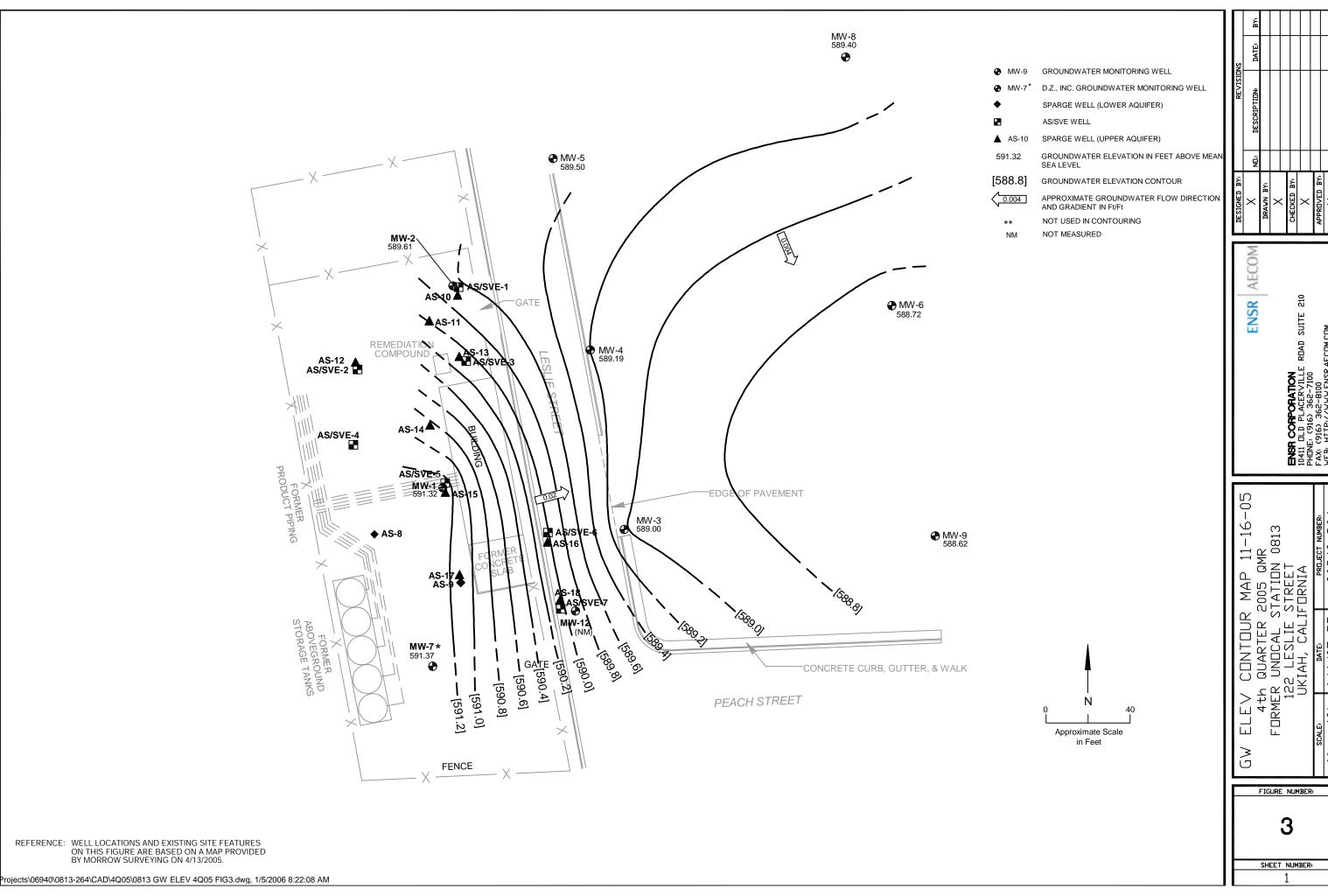
SITE PLAN
4th QUARTER 2005 QMR
FORMER UNDCAL STATION 0813
122 LESLIE STREET
UKIAH, CALIFORNIA
scale, Date, PROJECT NUMBER.

FIGURE NUMBER:

2

SHEET NUMBER:

1



DESCRIPTION								
Ë								
×	DRAWN BY:	<b>×</b>	<	CHECKED BY:	×	PPROVED BY:	>	~

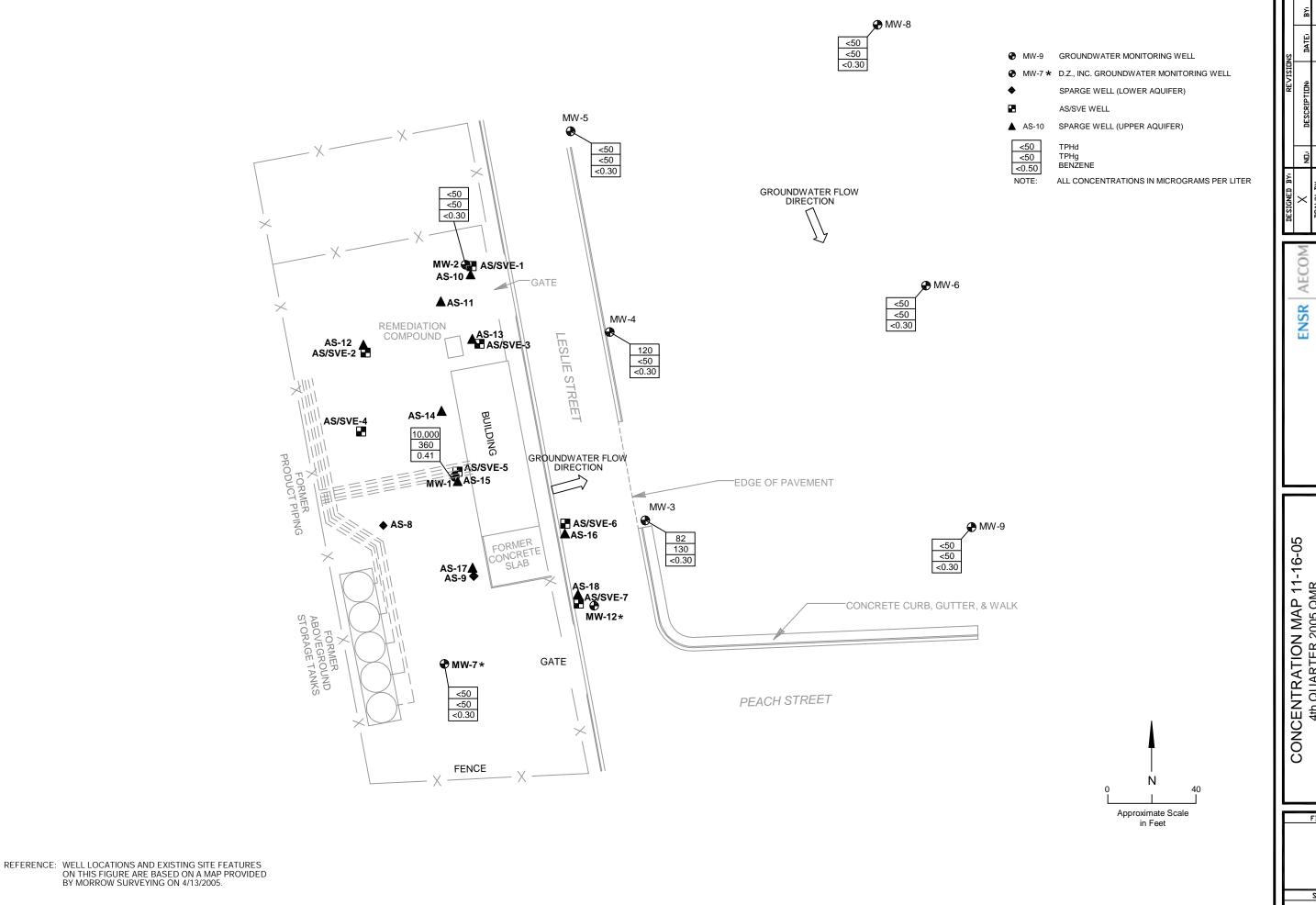
210 RDAD SUITE

ELEV CONTOUR MAP 11-16-4th QUARTER 2005 QMR FORMER UNDCAL STATION 0813 122 LESLIE STREET UKIAH, CALIFORNIA

FIGURE NUMBER

3

SHEET NUMBER



ENSR AECC

ENSR CORPORATION

10411 GLD PLACERVILLE RGAD SUITE 210

PHONE: (916.) 362-7100

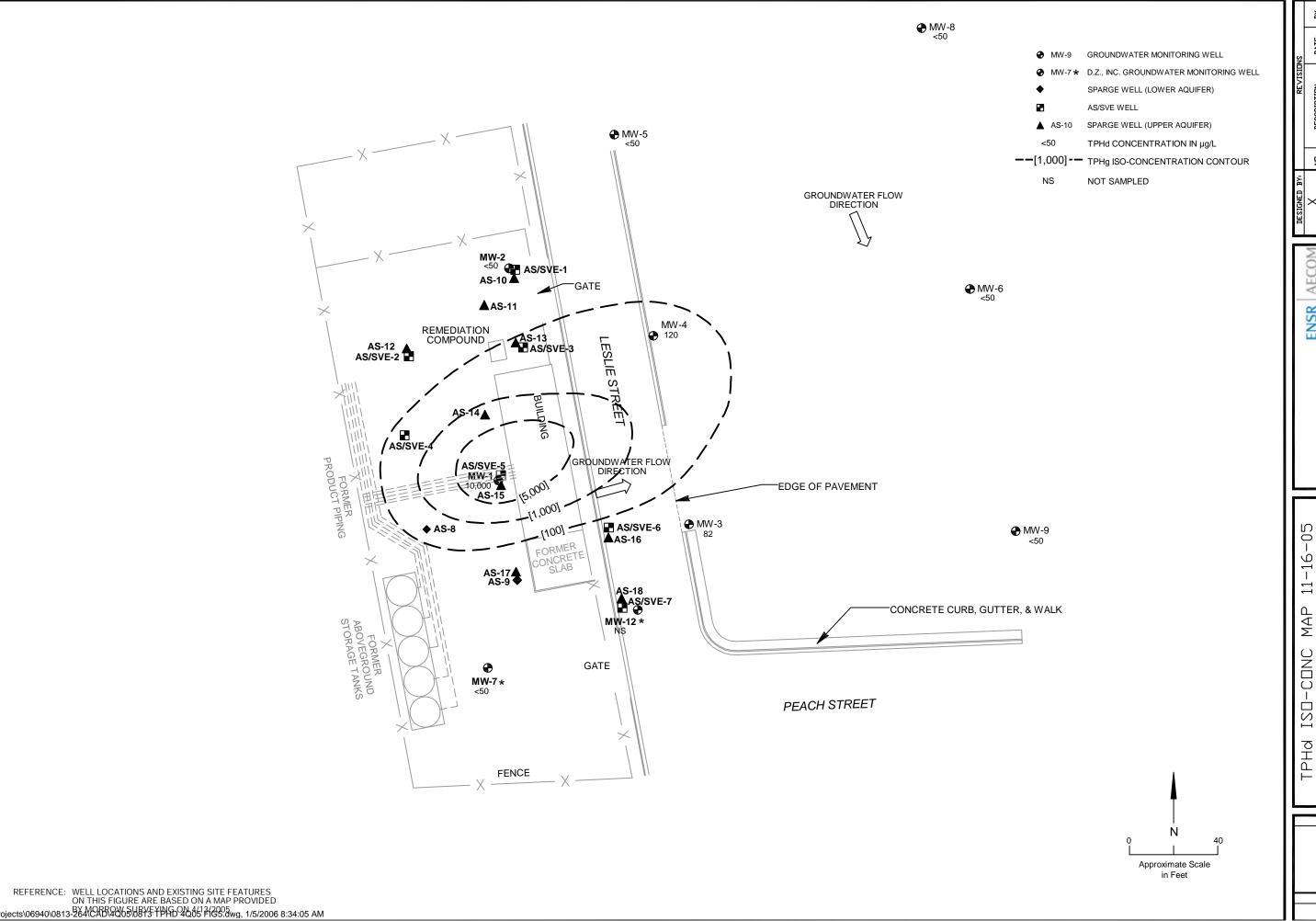
FAX: (916.) 362-8100

CONCENTRATION MAP 11-16-05
4th QUARTER 2005 QMR
FORMER UNOCAL BULK PLANT 0813
122 LESLIE STREET
UKIAH, CALIFORNIA

FIGURE NUMBER:

4

SHEET NUMBER:



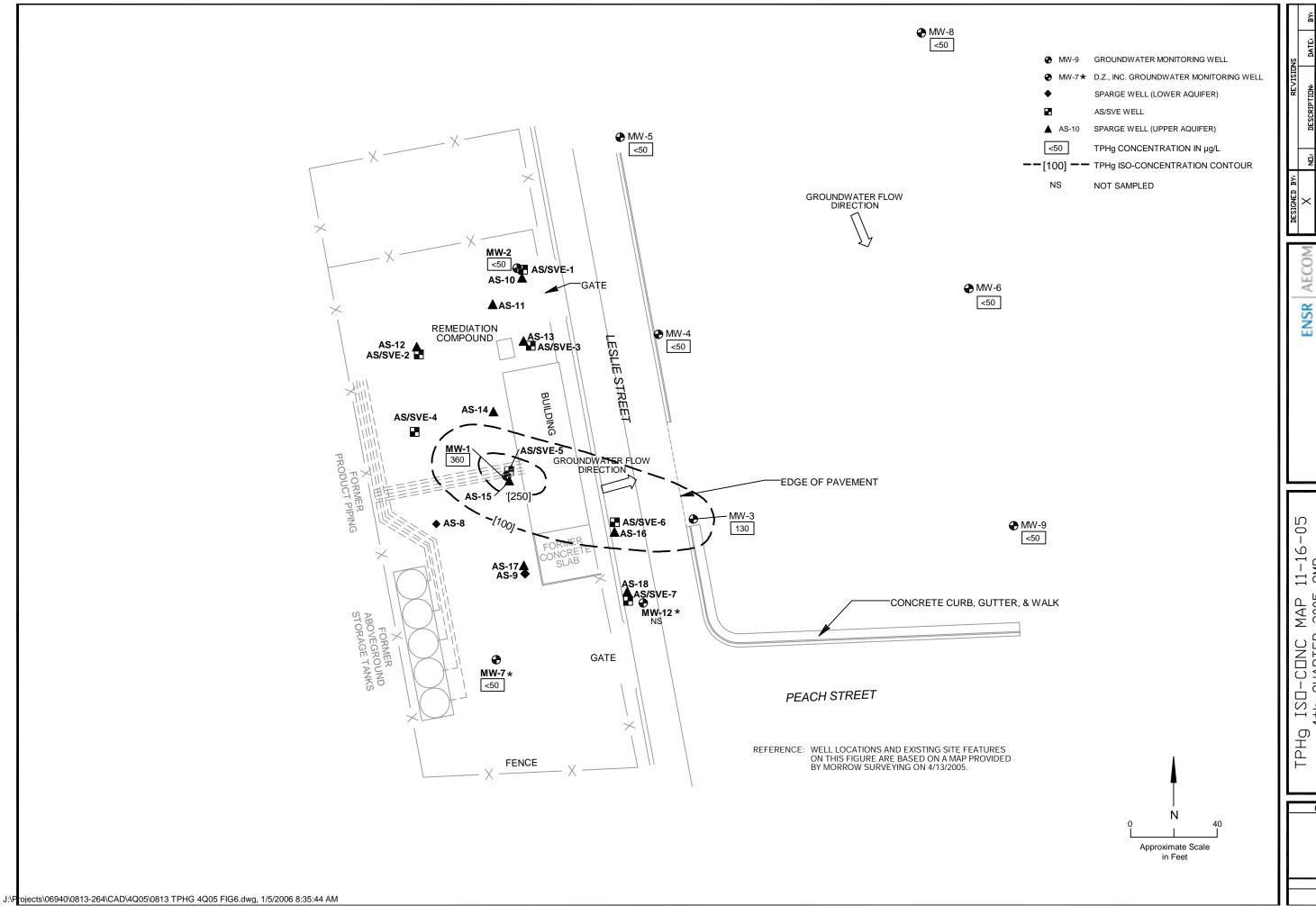
CRATION
ACERVILLE RUAD SUITE 210
362-7100

PHG ISD-CONC MAP 11-16-05
4th QUARTER 2005 QMR
FORMER UNDCAL STATION 0813
122 LESLIE STREET
UKIAH, CALIFORNIA

FIGURE NUMBER:

5

SHEET NUMBER:
1



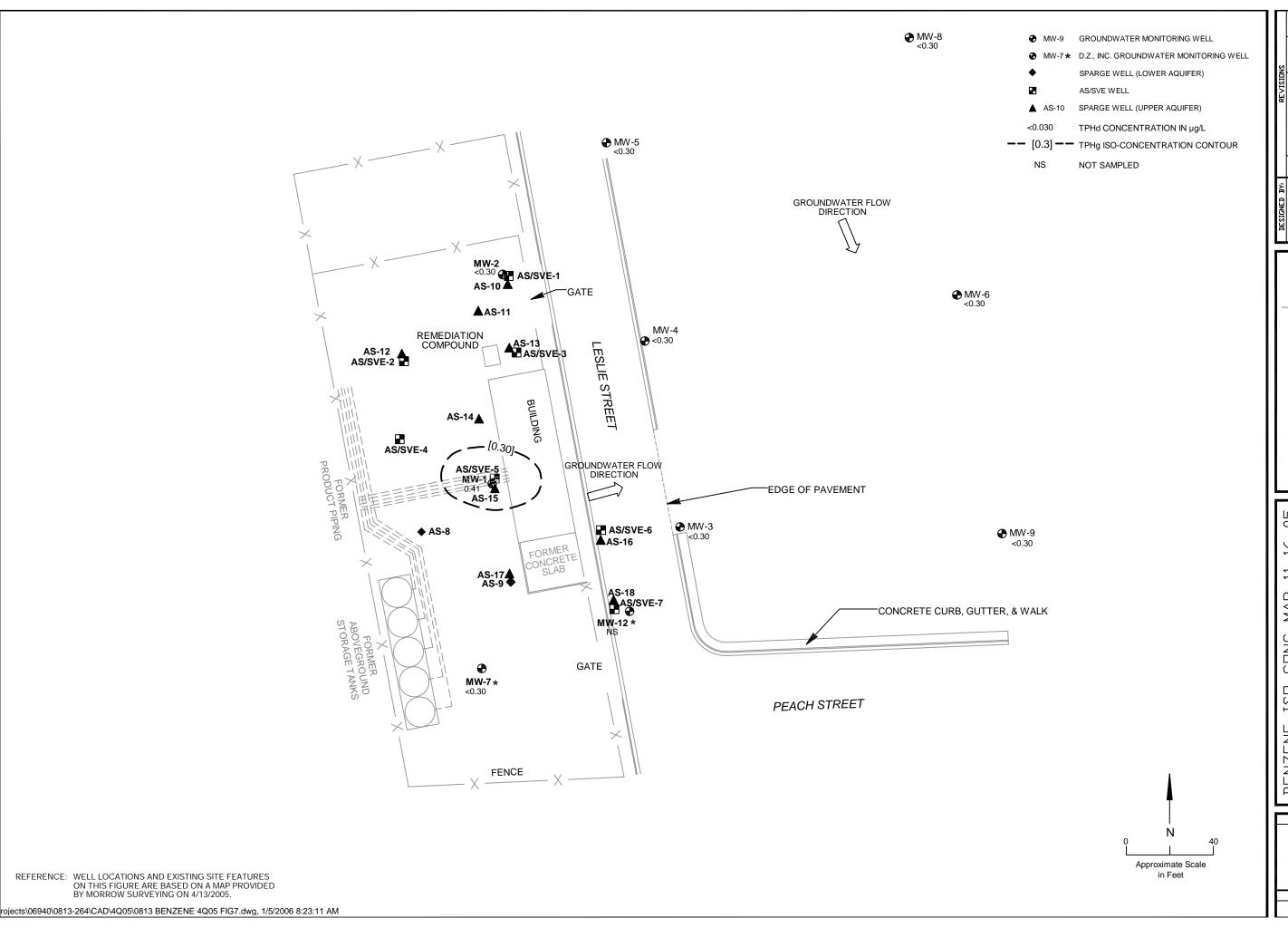
PORATION
LACERVILLE RDAD SUITE 210
3 562-7100

PHG ISD-CONC MAP 11-16-05
4th QUARTER 2005 QMR
FORMER UNDCAL STATION 0813
122 LESLIE STREET
UKIAH, CALIFORNIA
CALI DATE PROJECT NUMBER

FIGURE NUMBER:

6

SHEET NUMBER:



ENSR | AECOM

11-16-05 NZENE ISD-CONC MAP 11-16-4th QUARTER 2005 QMR FORMER UNDCAL STATION 0813 122 LESLIE STREET UKIAH, CALIFORNIA BENZENE

FIGURE NUMBER: SHEET NUMBER

Figure 8
TPHd and TPHg Concentrations in MW-1

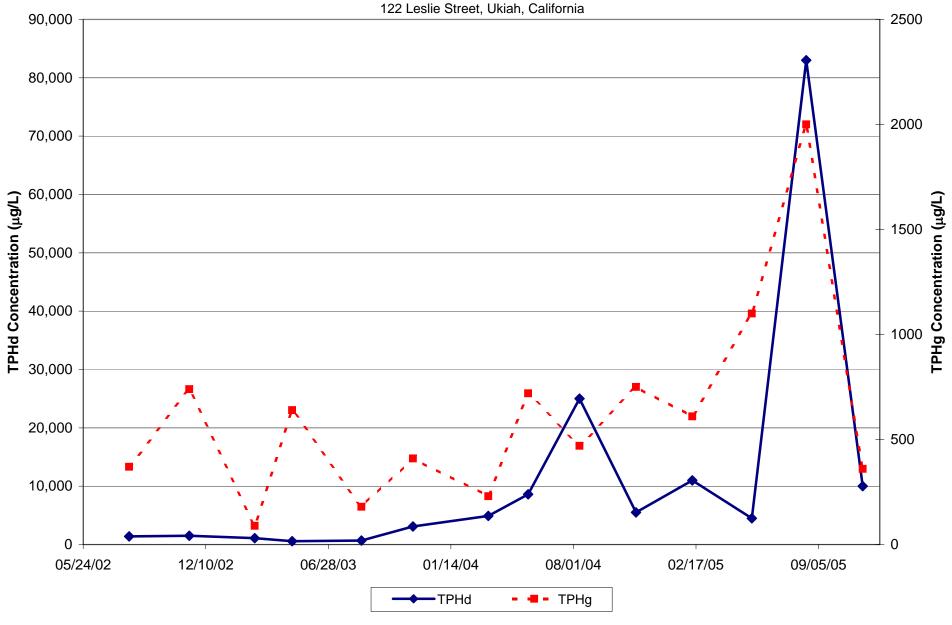


Figure 9
TPHd and TPHg Concentrations in MW-2

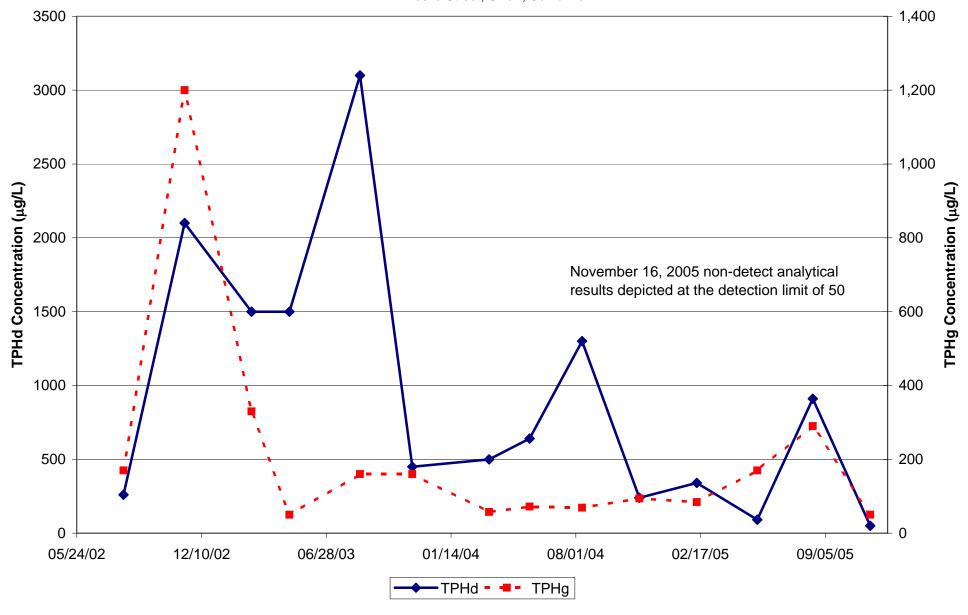


Table 1
Groundwater Monitoring Data and Analytical Results

WELL ID/	DATE	DTW	GWE	TPHd	TPHg	В	Т	E	X	T. Lead	TOG	PRE-PURGE D.O.
TOC*(ft.)		(ft.)	(msl)	$(\mu g/L)$	$(\mu g/L)$	$(\mu g/L)$	$(\mu g/L)$	$(\mu g/L)$	$(\mu g/L)$	$(\mu g/L)$	$(\mu g/L)$	(mg/L)
MW-1												
607.93	08/07/02 <sup>1</sup>	16.11	591.82	1,400	370 <sup>2</sup>	< 0.50	< 0.50	1.3	< 0.50	<75	<5,000	
	11/13/02	17.35	590.58	1,500	740	< 0.50	< 0.50	6.7	< 0.50	<75	<5,000	
	02/28/03	7.26	600.67	1,100	89	< 0.50	< 0.50	< 0.50	< 0.50	<75	<5,000	
	04/30/03	4.29	603.64	570	640	< 0.50	< 0.50	1.8	< 0.50	<75	<5,000	
	08/21/03	13.93	594.00	690	180	1.5	< 0.50	0.87	2.1	<50	<5,000	
	11/13/03	20.25	587.68	3,100	410	< 0.50	< 0.50	0.64	< 0.50	<75	<5,000	
	03/15/04	6.65	601.28	4,900	230 4	< 0.50	< 0.50	< 0.50	2.0	7.6	<5,000	
	05/19/04	10.50	597.43	8,600	720	< 0.50	< 0.50	3.8	3.7	9.0	5,000	
	08/11/04	16.81	591.12	25,000	470 <sup>4</sup>	1.4	<1.0 <sup>6</sup>	2.2	4.5	15	<5,000	
	11/11/04	17.73	590.20	5,500	750 <sup>4</sup>	1.3	4.1	11	6.4	6.8	<5,000	
	02/11/05	7.67	600.26	11,000	610 <sup>4</sup>	< 0.50	0.62	2.5	3.4	<5.0	<5,000	
608.62	05/19/05	6.04	602.58	4,500	1,100	<1.5	<1.5	<2.5	<2.5	5.4		
	08/16/05	11.80	596.82	83,000	2,000	0.39	< 0.30	< 0.50	< 0.50	22	5,200	0.17
	11/16/05	17.30	591.32	10,000	360	0.41	<0.30	<0.50	<0.50	12	NA	
MW-2												
607.78	08/07/02 <sup>1</sup>	17.35	590.43	260	170 <sup>2</sup>	< 0.50	< 0.50	0.91	< 0.50	<75	<5,000	
	11/13/02	20.23	587.55	2,100	1,200	<1.0	<1.0	19	<1.0	<75	<5,000	
	02/28/03	7.55	600.23	1,500	330	< 0.50	< 0.50	2.4	0.57	<75	<5,000	
	04/30/03	4.87	602.91	1,500	<50	< 0.50	< 0.50	< 0.50	< 0.50	<75	<5,100	
	08/21/03	14.54	593.24	$3,100^2$	160	< 0.50	0.60	1.1	4.0	<50	<5,000	
	11/13/03	21.04	586.74	450	160	< 0.50	< 0.50	0.67	< 0.50	<75	<5,000	
	03/15/04	7.13	600.65	500	57 <sup>4</sup>	< 0.50	< 0.50	< 0.50	<1.0	8.4	<5,000	
	05/19/04	10.77	597.01	640	72	< 0.50	< 0.50	1.7	2.9	6.9	<5,000	
	08/11/04	18.00	589.78	1,300	69 <sup>4</sup>	< 0.50	< 0.50	0.88	2.0	12	<5,000	
	11/11/04	20.08	587.70	240	94 <sup>4</sup>	< 0.50	0.99	2.0	2.5	<5.0	<5,000	
	02/11/05	7.37	600.41	340	84 <sup>4</sup>	< 0.50	0.87	1.5	<1.0	<5.0	<5,000	

Table 1
Groundwater Monitoring Data and Analytical Results

WELL ID/ TOC*(ft.)	DATE	DTW (ft.)	GWE (msl)	<b>TPHd</b> ( μ g/L)	<b>ΤΡΗg</b> ( μ g/L)	<b>Β</b> ( μg/L)	<b>Τ</b> ( μg/L)	<b>Ε</b> ( μg/L)	<b>Χ</b> ( μg/L)	<b>T. Lead</b> ( $\mu g/L$ )	<b>ΤΟG</b> ( μ g/L)	PRE-PURGE D.O. (mg/L)
		<b>V</b> /	`	· · · · · ·	,,,,,	(, 0 /	,, ,	,, 0	· · · · ·	,,,,,	(, 0 )	, ,
608.56	05/19/05	7.73	600.83	91	170	< 0.30	< 0.30	< 0.50	< 0.50	2.2		
MW-2	08/16/05	10.55	598.01	910 <sup>7</sup>	290	< 0.30	< 0.30	< 0.50	< 0.50	56	<5,000	0.19
(Cont.)	11/16/05	18.95	589.61	<50	<50	<0.30	<0.30	<0.50	<0.50	170	NA	-
MW-3												
607.14	08/07/02 <sup>1</sup>	17.29	589.85	28,000	1,300 <sup>2</sup>	< 0.50	< 0.50	7.8	< 0.50	360	5,300	
	11/13/02	20.73	586.41	9,100	570	<5.0	<5.0	< 5.0	<5.0	<75	5,400	
	02/28/03	7.78	599.36	220	<50	< 0.50	< 0.50	< 0.50	< 0.50	<75	<5,000	
	04/30/03	5.04	602.10	420	56	< 0.50	< 0.50	1.0	< 0.50	<75	<5,000	
	08/21/03	14.45	592.69	460	71	1.6	< 0.50	< 0.50	1.1	<50	<5,000	
	11/13/03	21.45	585.69	1,300	260	2.4	< 0.50	< 0.50	< 0.50	<75	<5,000	
	03/15/04	7.38	599.76	360	87	0.71	< 0.50	< 0.50	<1.0	<5.0	<5,000	
	05/19/04	10.90	596.24	430	110	< 0.50	0.74	0.99	<1.0	<5.0	<5,000	
	08/11/04	17.88	589.26	1,200	140 <sup>4</sup>	< 0.50	0.56	1.3	2.4	<5.0	<5,000	
	11/11/04	20.30	586.84	1,900	310 <sup>4</sup>	0.77	1.1	5.6	4.5	<5.0	<5,000	
	02/11/05	7.64	599.50	230	<50	< 0.50	0.59	0.82	<1.0	<5.0	<5,000	
607.88	05/19/05	6.31	601.57	<50	270	< 0.30	< 0.30	< 0.50	< 0.50	<2.0		
	08/16/05	12.13	595.75	370 <sup>8</sup>	470	< 0.30	< 0.30	< 0.50	< 0.50	2.4	<5,000	
	11/16/05	18.88	589.00	82	130	<0.30	<0.30	<0.50	<0.50	2.1	NA	
MW-4												
607.29	08/07/02 <sup>1</sup>	17.16	590.13	69	<50	<0.50	<0.50	<0.50	<0.50	540	<5,000	
	11/13/02	20.35	586.94	130	<50	<0.50	<0.50	< 0.50	< 0.50	<75	<5,000	
	02/28/03	7.49	599.80	240	<50	<0.50	< 0.50	< 0.50	<0.50	<75	<5,000	
	04/30/03	4.82	602.47	240	<50	<0.50	<0.50	< 0.50	< 0.50	<75	<5,100	
	08/21/03	14.54	592.75	120 <sup>2</sup>	<50	<0.50	<0.50	< 0.50	< 0.50	<50	<5,000	
	11/13/03	21.25	586.04	NS*	NS*	NS*	NS*	NS*	NS*	NS*	NS*	NS*

Table 1
Groundwater Monitoring Data and Analytical Results

WELL ID/ TOC*(ft.)	DATE	DTW (ft.)	GWE (msl)	<b>TPHd</b> ( μg/L)	<b>ΤΡΗg</b> ( μg/L)	<b>Β</b> ( μg/L)	<b>Τ</b> ( μg/L)	<b>Ε</b> ( μg/L)	<b>Χ</b> ( μg/L)	<b>T. Lead</b> ( μg/L)	<b>ΤΟG</b> ( μg/L)	PRE-PURGE D.O. (mg/L)
<b>U</b> /		<b>V</b> /		(7.6.7	(70)	(70)	(10)	(10)	(10)	(7 0 /	(70)	( 0 /
MW-4	03/15/04	7.02	600.27	<50	<50	< 0.50	< 0.50	< 0.50	<1.0	<5.0	<5,000	
(Cont.)	05/19/04	10.60	596.69	<50	<50	< 0.50	< 0.50	< 0.50	<1.0	<5.0	<5,000	
	08/11/04	17.77	589.52	<50	<50	< 0.50	< 0.50	< 0.50	<1.0	<5.0	<5,000	
	11/11/04	20.00	587.29	<50	<50	< 0.50	< 0.50	< 0.50	<1.0	<5.0	<5,000	
	02/11/05	7.28	600.01	<50	<50	< 0.50	< 0.50	< 0.50	<1.0	<5.0	<5,000	
608.07	05/19/05	6.26	601.81	<50	<50	< 0.30	< 0.30	< 0.50	< 0.50	<2.0		
	08/16/05	11.88	596.19	210 <sup>8</sup>	<50	< 0.30	< 0.30	< 0.50	< 0.50	3.0	<5,000	
	11/16/05	18.88	589.19	120 <sup>10</sup>	<50	<0.30	<0.30	<0.50	<0.50	18	NA	
MW-5												
607.64	08/07/02 <sup>1</sup>	17.33	590.31	4,100	210 <sup>2</sup>	<0.50	< 0.50	<0.50	<0.50	310	<5,000	
007.01	11/13/02	20.38	587.26	1,100	74	<0.50	<0.50	< 0.50	< 0.50	<75	<5,000	
	02/28/03	7.39	600.25	6,300	<50	<0.50	<0.50	< 0.50	< 0.50	<75	11,000	
	04/30/03	4.81	602.83	3,700	<50	<0.50	<0.50	< 0.50	< 0.50	<75	6,600	
	08/21/03	14.44	593.20	880 <sup>2</sup>	<50	<0.50	<0.50	< 0.50	< 0.50	<50	<5,000	
	11/13/03	21.15	586.49	30,000	61	<0.50	<0.50	<0.50	<0.50	130	7,300	
	03/15/04	6.92	600.72	1,600 <sup>5</sup>	<50	<0.50	<0.50	<0.50	<1.0	<5.0	<5,000	
	05/19/04	10.58	597.06	<50	<50	<0.50	<0.50	0.53	1.0	<5.0	17,000	
	08/11/04	17.92	589.72	8,800 <sup>5</sup>	<50	<0.50	<0.50	<0.50	<1.0	<5.0	<5,000	
	11/11/04	20.02	587.62	4,800 <sup>5</sup>	<50	<0.50	< 0.50	< 0.50	<1.0	<5.0	<5,000	
	02/11/05	7.15	600.49	<50	<50	<0.50	< 0.50	< 0.50	<1.0	5.3	<5,000	
608.40	05/19/05	6.16	602.24	<50	<50	< 0.30	< 0.30	< 0.50	< 0.50	<2.0		
	08/16/05	11.90	596.50	170 <sup>8</sup>	<50	< 0.30	< 0.30	< 0.50	< 0.50	3.0	5,000	
	11/16/05	18.90	589.50	<50	<50	<0.30	<0.30	<0.50	<0.50	<2.0	NA	
BANA/ C												
<b>MW-6</b> 606.60	08/07/02 <sup>1</sup>	16.75	589.85	<50 <sup>3</sup>	<50	<0.50	<0.50	<0.50	<0.50	260	<5,000	

Table 1
Groundwater Monitoring Data and Analytical Results

WELL ID/	DATE	DTW	GWE	TPHd	TPHg	В	Т	E	X	T. Lead	TOG	PRE-PURGE D.O.
TOC*(ft.)		(ft.)	(msl)	$(\mu g/L)$	$(\mu g/L)$	$(\mu g/L)$	$(\mu g/L)$	$(\mu g/L)$	$(\mu g/L)$	$(\mu g/L)$	$(\mu g/L)$	(mg/L)
MW-6	11/13/02	20.57	586.03	<50	<50	<0.50	<0.50	<0.50	<0.50	<75	<5,000	
(Cont.)	02/28/03	7.10	599.50	<50	<50	<0.50	<0.50	< 0.50	< 0.50	<75	<5,000	
	04/30/03	4.70	601.90	72	<50	<0.50	<0.50	< 0.50	< 0.50	<75	<5,200	
	08/21/03	13.88	592.72	<50	<50	< 0.50	< 0.50	< 0.50	< 0.50	<50	<5,000	
	11/13/03	21.00	585.60	230	<50	<0.50	<0.50	<0.50	< 0.50	190	<5,000	3.08
	03/15/04	6.66	599.94	<50	<50	<0.50	<0.50	<0.50	<1.0	<5.0	<5,000	
	05/19/04	10.15	596.45	<50	<50	<0.50	0.56	0.73	2.0	<5.0	<5,000	
	08/11/04	17.32	589.28	<50	<50	< 0.50	< 0.50	< 0.50	<1.0	<5.0	<5,000	
	11/11/04	19.72	586.88	<50	<50	< 0.50	< 0.50	< 0.50	<1.0	8.3	<5,000	
	02/11/05	6.94	599.66	<50	<50	< 0.50	< 0.50	< 0.50	<1.0	<5.0	<5,000	
607.36	05/19/05	5.93	601.43	<50	<50	< 0.30	< 0.30	< 0.50	< 0.50	13		
	08/16/05	11.45	595.91	<120 <sup>9</sup>	<50	< 0.30	< 0.30	< 0.50	< 0.50	8.8	<5,000	
	11/16/05	18.64	588.72	<50	<50	<0.30	<0.30	<0.50	<0.50	7.4	NA	
MW-7												
607.29	08/07/02 <sup>1</sup>	15.50	591.79	56	<50	<0.50	<0.50	<0.50	< 0.50	<75	<5,000	
	11/13/02	16.58	590.71	<50	<50	<0.50	<0.50	<0.50	< 0.50	<75	<5,000	
	02/28/03	6.93	600.36	66	<50	< 0.50	< 0.50	< 0.50	< 0.50	<75	<5,000	
	04/30/03	3.77	603.52	64	<50	< 0.50	< 0.50	< 0.50	< 0.50	<75	<5,200	
	08/21/03	13.39	593.90	<50	<50	< 0.50	< 0.50	< 0.50	< 0.50	<50	<5,000	
	11/13/03	19.60	587.69	<50	<50	< 0.50	< 0.50	< 0.50	< 0.50	<75	<5,000	0.83
	03/15/04	6.36	600.93	<50	<50	< 0.50	< 0.50	< 0.50	<1.0	<5.0	<5,000	
	05/19/04	10.10	597.19	<50	<50	< 0.50	< 0.50	< 0.50	<1.0	<5.0	<5,000	
	08/11/04	16.18	591.11	<50	<50	< 0.50	< 0.50	< 0.50	<1.0	<5.0	<5,000	
	11/11/04	17.05	590.24	<50	<50	< 0.50	< 0.50	< 0.50	<1.0	<5.0	<5,000	
	02/11/05	6.72	600.57	<50	<50	<0.50	<0.50	< 0.50	<1.0	<5.0	<5,000	
608.07	05/19/05	5.54	602.53	<50	<50	< 0.30	< 0.30	< 0.50	< 0.50	<2.0	<i>-</i> -	
	08/16/05	11.30	596.77	420 8	<50	<0.30	<0.30	<0.50	<0.50	<2.0	<5,000	

Table 1
Groundwater Monitoring Data and Analytical Results

WELL ID/ TOC*(ft.)	DATE	DTW (ft.)	GWE (msl)	<b>TPHd</b> ( μ g/L)	<b>TPHg</b> ( μ g/L)	<b>Β</b> ( μ g/L)	<b>Τ</b> ( μ g/L)	<b>Ε</b> ( μg/L)	<b>Χ</b> ( μg/L)	<b>T. Lead</b> ( μ g/L)	<b>ΤΟG</b> ( μ g/L)	PRE-PURGI D.O. (mg/L)
MW-7	11/16/05	16.70	591.37	<50	<50	<0.30	<0.30	<0.50	<0.50	<2.0	NA	
(Cont.)	11/10/03	10.70	591.57	<30	<50	<0.30	<0.30	<0.50	<0.50	<2.0	NA	
,												
MW-8												
606.53	08/07/02 <sup>1</sup>	16.30	590.23	< 50 <sup>3</sup>	<50	< 0.50	< 0.50	< 0.50	< 0.50	190	<5,000	
	11/13/02	20.15	586.38	<50	<50	< 0.50	< 0.50	< 0.50	< 0.50	<75	<5,000	
	02/28/03	6.18	600.35	<50	<50	< 0.50	< 0.50	< 0.50	< 0.50	<75	<5,000	
	04/30/03	3.98	602.55	59	<50	< 0.50	< 0.50	< 0.50	< 0.50	<75	<5,000	
	08/21/03	13.33	593.20	<50	<50	< 0.50	0.56	< 0.50	< 0.50	<50	<5,000	
	11/13/03	20.60	585.93	140	<50	< 0.50	< 0.50	< 0.50	< 0.50	<75	<5,000	
	03/15/04	5.72	600.81	<50	<50	< 0.50	< 0.50	< 0.50	< 0.50	<5.0	<5,000	
	05/19/04	9.40	597.13	<50	<50	< 0.50	< 0.50	0.66	1.9	<5.0	<5,000	
	08/11/04	16.85	589.68	<50	<50	< 0.50	< 0.50	< 0.50	<1.0	<5.0	<5,000	
	11/11/04	19.07	587.46	<50	<50	< 0.50	< 0.50	< 0.50	<1.0	<5.0	<5,000	
	02/11/05	6.03	600.50	<50	<50	< 0.50	< 0.50	< 0.50	<1.0	<5.0	<5,000	
607.30	05/19/05	5.04	602.26	<50	<50	< 0.30	< 0.30	< 0.50	< 0.50	4.9		
	08/16/05	10.73	596.57	140 <sup>8</sup>	<50	< 0.30	< 0.30	< 0.50	< 0.50	7.6	<5,000	
	11/16/05	17.90	589.40	<50	<50	<0.30	<0.30	<0.50	<0.50	11	NA	
MW-9	08/21/03 <sup>1</sup>	14.25	592.42	<50	<50	<0.50	<0.50	<0.50	<0.50	<50	<5,000	1.7
606.67	11/13/03	21.45	585.22	55	<50	<0.50	<0.50	<0.50	<0.50	79	<5,000	
	03/15/04	7.50	599.17	<50	<50	< 0.50	<0.50	< 0.50	<0.50	<5.0	<5,000	
	05/19/04	10.78	595.89	<50	<50	0.94	0.77	0.95	3.2	<5.0	<5,000	
	08/11/04	17.67	589.00	<50	<50	<0.50	<0.50	<0.50	<1.0	<5.0	<5,000	
	11/11/04	20.23	586.44	<50	<50	< 0.50	<0.50	<0.50	<1.0	<5.0	<5,000	
	02/11/05	7.77	598.90	<50	<50	< 0.50	< 0.50	< 0.50	< 0.50	<5.0	<5,000	
607.44	05/19/05	6.65	600.79	<50	<50	< 0.30	<0.30	<0.50	<0.50	7.4		
	08/16/05	12.00	595.44	480 <sup>8</sup>	<50	<0.30	<0.30	<0.50	<0.50	9.8	<5,000	

Table 1
Groundwater Monitoring Data and Analytical Results
Former Unocal Bulk Plant No. 0813

WELL ID/ TOC*(ft.)	DATE	DTW (ft.)	GWE (msl)	<b>TPHd</b> ( μ g/L)	<b>TPHg</b> ( μ g/L)	<b>Β</b> ( μg/L)	<b>Τ</b> ( μ g/L)	<b>Ε</b> ( μg/L)	<b>Χ</b> ( μg/L)	<b>T. Lead</b> ( μ g/L)	<b>ΤΟG</b> ( μ g/L)	PRE-PURGE D.O. (mg/L)
MW-9 (Cont.)	11/16/05	18.82	588.62	<50	<50	<0.30	<0.30	<0.50	<0.50	11	NA	
MW-12												
607.33	NOT MONIT	ORED/NOT	SAMPLED									
608.08	05/19/05 08/16/05 <b>11/16/05</b>		NOT MONITOR NOT MONITOR NOT MONITOR	ED/NOT SAM	PLED							
Trip Blank												
QA	08/07/02				<50	< 0.50	< 0.50	< 0.50	< 0.50			
	11/13/02				<50	< 0.50	< 0.50	< 0.50	< 0.50			
	02/28/03				<50	< 0.50	< 0.50	< 0.50	< 0.50			
	04/30/03				<50	< 0.50	< 0.50	< 0.50	< 0.50			
	08/21/03				<50	< 0.50	< 0.50	< 0.50	< 0.50			
	11/13/03				<50	< 0.50	< 0.50	< 0.50	< 0.50			
	05/19/04				<50	< 0.50	< 0.50	< 0.50	< 0.50			
	08/11/04				<50	< 0.50	< 0.50	< 0.50	<1.0			
	11/11/04				<50	< 0.50	< 0.50	< 0.50	<1.0			
	02/11/05				<50	< 0.50	< 0.50	< 0.50	<1.0			
	05/19/05				<50	< 0.30	< 0.30	< 0.50	< 0.50			
	08/16/05				<50	< 0.30	< 0.30	< 0.50	< 0.50			
	11/16/05				<50	< 0.30	<0.30	<0.50	<0.50			

### Table 1

### **Groundwater Monitoring Data and Analytical Results**

Former Unocal Bulk Plant No. 0813 122 Leslie Street Ukiah, California

### **EXPLANATIONS:**

TOC = Top of Casing TPHg = Total Petroleum Hydrocarbons as Gasoline (ppb) = Parts per billion DTW = Depth to Water B = Benzene-- = Not Measured/Not Analyzed (ft.) = FeetT = Toluene QA = Quality Assurance/Trip Blank GWE = Groundwater Elevation E = Ethylbenzene D.O. = Dissolved Oxygen (msl) = Mean sea level X = Xylenesmg/L = Milligrams per liter TPHd = Total Petroleum Hydrocarbons as Diesel T. Lead = Total Lead μg/L = Microgram per liter NS\* Unable to access well due to parked car TOG = Total Oil and Grease NA = Not Analyzed

- \* TOC elevations were re-surveyed on April 13, 2005 by Morrow Surveying. Historically, TOC elevation for MW-9 was surveyed September 4, 2003, by Morrow Surveying, Inc. referencing the previous benchmark. TOC elevations are referenced to msl, and were surveyed June 24, 2002, by Morrow Surveying, Inc. The benchmark used for the survey was a City of Ukiah benchmark.
- Well development performed.
- Laboratory report indicates no sample remained for re-extraction.
- <sup>4</sup> Although sample contains compounds in the retention time range associated gasoline, the chromatogram was not consistent with the expected chromatographic pattern or "fingerprint". However, the reported concentration is based on gasoline.
- Although sample contains compounds in the retention time range associated diesel, the chromatogram was not consistent with the expected chromatographic pattern or "fingerprint". However, the reported concentration is based on diesel.
- <sup>6</sup> The sample was diluted due to the presence of high levels of non-target analytes resulting in elevated reporting limits.
- Analysis of this sample indicates the presence of hydrocarbons lower in molecular weight than diesel
- The sample chromatographic pattern does not resemble the diesel standard used for calibration
- <sup>9</sup> The method blank contains analyte at a concentration above the MRL; sample reporting limits were raised as necessary.
- The sample chromatogram contains resolved peaks within the diesel range that do not resemble diesel.

Table 2
Ozone Sparging System Monitoring
Data and Analytical Results for MW-1 and MW-2

WELL ID/	DATE	TPHd	TPHg	В	Т	Е	Х	Cr+6	pН	Molybdenum	Selenium	Vanadium	Bromate	Bromide
TOC(ft.)		$(\mu g/L)$	pH Units	$(\mu g/L)$										
MW-1														
608.62	4/14/05*	4,700	1,100	ND	ND	ND	ND	ND	6.5	ND	ND	ND	ND	120
	4/20/05*	260	160	ND	ND	ND	ND	ND	6.8	ND	ND	ND	ND	57
	5/09/05*	97	540	ND	ND	ND	ND	ND	7.1	ND	ND	ND	ND	39
	5/19/05	4,500	1,100	ND	ND	ND	ND	ND	6.6	ND	ND	ND		
	6/17/05*	180	220	ND	ND	ND	ND	ND	7.0	ND	ND	ND	ND	31
	8/16/05	83,000	2,000	0.39	< 0.30	< 0.50	< 0.50	<10	6.7	<20	<5	<10	<5	6.5
	9/19/05	3,600	1,200	0.35	<0.30	<0.5	<0.50	<1.0	6.3	<20	<5.0	<10	<5	83
	10/18/05	8,000	2,100	0.45	<0.30	<0.5	<0.50	<1.0	7.1	<20	<5.0	<10	<5	22
	11/16/05	10,000	360	0.41	<0.30	<0.50	<0.50	<1.0	6.8	<20	<5.0	<10	<5	72
	12/15/05	11,000	1,000	0.50	<0.30	<0.50	<0.50	<1.0	6.2	<20	<5.0	<10	<5	55
MW-2														
608.56	4/14/05*	79	ND	ND	ND	ND	ND	ND	6.4	ND	ND	ND	ND	250
	4/20/05*	2,500	290	ND	ND	ND	ND	ND	6.5	ND	ND	ND	ND	69
	5/09/05*	310	190	ND	ND	ND	ND	ND	6.8	ND	ND	2.4	ND	85
	5/19/05	91	170	ND	ND	ND	ND	ND	6.7	ND	ND	1.6		
	6/17/05*	260	ND	ND	ND	ND	ND	0.1	6.8	ND	ND	ND	ND	49
	8/16/05	910	290	< 0.30	< 0.30	< 0.50	< 0.50	11	6.9	<20	<5	27	<5	81
	9/19/05	120	150	<0.3	<0.30	<0.50	<0.50	<1.0	6.5	<20	<5.0	<10	<5	79
	10/18/05	<50	<50	<0.3	<0.30	<0.50	<0.50	<1.0	7.3	<20	<5.0	<10	16	23
	11/16/05	<50	<50	<0.30	<0.30	<0.50	<0.50	<1.0	7.2	<20	<5.0	<10	<5	69
	12/15/05	<50	140	0.37	0.33	1.1	2.3	<1.0	6.7	<20	<5.0	<10	<5	61

### **EXPLANATIONS:**

TPHd = Total Petroleum Hydrocarbons as Diesel

TPHg = Total Petroleum Hydrocarbons as Gasoline B = Benzene

T = Toluene E = Ethylbenzene X = Xylenes (total)

Cr+6 = Hexavalent chromium

ND = Non-detect
-- = Not sampled

μg/L = micrograms per liter

TOC = Top of Casing

ft = feet above mean sea level

<sup>\* =</sup> Samples collected as part of the monthly ozone system monitoring & sampling were collected as grab samples. All samples collected as part of the quarterly groundwater monitoring program and monthly samples collected after 8/16/05 were collected following a three-casing volume purge.

## ATTACHMENT A FIELD METHODS AND PROCEDURES

# FIELD METHODS AND PROCEDURES Unocal Site No. 813, 122 Leslie Street, Ukiah, CA (Site) ENSR Project No. 06940-264

The following section describes field procedures that are to be used by ENSR personnel in the performance and quality management of the field work and data evaluation tasks involved with this project.

### 1. HEALTH AND SAFETY PLAN

The performance of fieldwork and other project services by ENSR and ENSR's subcontractors will be conducted according to guidelines established in the most current, Site-specific Health And Safety Plan (HASP). The HASP describes the hazards that may be encountered in the field and specifies protective equipment, work procedures, and emergency information. A copy of the HASP is maintained at the Site. Prior to performing work at the Site, personnel will have read the HASP, and sign that they have read the HASP and will perform work at the Site in accordance with the HASP.

### 2. DECONTAMINATION

Decontamination of equipment brought to and used at the Site is performed in accordance with ENSR SOP No. 7600. The soap solution and rinse water used for decontamination are collected and properly disposed of as described in Section 7.

### 3. GROUNDWATER DEPTH ASSESSMENT

Initially, all wells for groundwater depth assessment are opened and allowed to equilibrate to atmospheric pressure. Measuring the thickness of liquid-phase hydrocarbons (LPH), if present, and the depth to groundwater are performed in accordance with the applicable sections of ENSR SOP No. 7130. The water level measurement probe is subjectively analyzed for LPH sheen after each measurement.

### **4. SUBJECTIVE ANALYSIS OF GROUNDWATER**

Prior to purging for groundwater monitoring, a groundwater sample is collected from the monitoring well for subjective assessment. The sample is retrieved by gently lowering a clean, disposable bailer to approximately one-half the bailer length past the air/liquid interface. The bailer is then retrieved and the sample contained within the bailer is examined for floating LPH and the appearance of a LPH sheen.

### 5. GROUNDWATER SAMPLE COLLECTION

### **5.1 Purged Groundwater Sample**

The purging and collection of a groundwater sample are performed in accordance with ENSR SOP No. 7130. Well purging completion standards include minimum purge volumes, and the stabilization of specific groundwater parameters prior to sample collection. Typical groundwater parameters used to measure stability are electrical conductivity, pH, and temperature as described in ENSR SOP Nos. 7124, 7121, and 7123, respectively. Groundwater parameter readings are obtained at regular intervals during the purging process (no less than once per case volume).

ENSR AECOM

### **5.2 Dissolved Oxygen Measurement**

Dissolved oxygen (D.O.) readings are collected in accordance with ENSR SOP No. 7122 using HORIBA meters (e.g. HORIBA Model U-22 or equivalent D.O. meter). These meters are equipped with a stirring device that enables the collection of in-situ readings.

### 5.3 Oxidation Reduction Potential (Redox Potential) Measurement

Redox potential readings are obtained with HORIBA meters (e.g. HORIBA Models U-22 or equivalent ORP meter). The meter is cleaned between wells as described above. The meter is calibrated at the start of each day according to the manufacturer's instruction manual.

### 5.4 Grab Groundwater Sample Collection

A grab groundwater sample is collected by lowering a disposable bailer to sufficient depth that the length of the bailer is below the water table.

### **6. PACKAGING AND SHIPMENT OF SAMPLES**

Soil, groundwater, and/or gas samples from field work are packaged and shipped in accordance with ENSR SOP No. 7510.

### 7. INVESTIGATION-DERIVED WASTE MANAGEMENT

The purge water, decontamination residuals, and aqueous-based, liquid wastes from field work are placed in 55-gallon drums and temporarily stored on-site pending evaluation of disposal options. Solid wastes, such as disposable bailers and paper wipes, generated during field work are packaged in an appropriate container and separately from liquid wastes. Final disposal is performed consistent with accepted regulatory requirements and consistent with requirements specified by Unocal.

### 8. QUALITY CONTROL

Quality control samples are collected and submitted for analysis. The quality control samples may include field blanks, rinsate blanks, duplicate sample(s), and matrix spike/matrix spike duplicate samples as described in Section 5.0 of ENSR SOP No. 7130.

### 9. DOCUMENTATION

Documentation of field work is performed consistent with Section 6.0 of ENSR SOP No. 7130 and ENSR SOP No. 7515

ENSR AECOM

# ATTACHMENT B GROUNDWATER SAMPLING INFORMATION DATA



### GROUNDWATER/LIQUID LEVEL DATA (measurements in feet below TOC)

Site Address:

122 Leslie St., Ukiah, CA

ENSR No.

06940-264-100

Unocal No.

813

Date:

Recorded by

Sampling Order/ Well No.	Time Opened	CGI	РИ́	02	Time Measured	Depth to Gr. Water	Measured Total Depth	Depth to Product	Product Thickness	Comments (TOC/TOB) (product skimmer in well)
MW-9	0834		/		OPIS	1892	24.61		/ .	TAKE D.O. READING NO DO ALTE
MW-6	0836				0920	1004	23.41	)		***
MW-8	୍ଧ୍ୟ		)		09 25	17.90	24.79			
MW-7	0960				0955	16.70	24.58			
MW-4	0848			No. company	0935	(8.80	25.91			
MW-3	0850		)		0940	18.99	25.91			
MW-2	0855				0945	1825	24.29	/		
MW-5	୯୫44				0920	1890	23.39			
(MW-1)	0857		7		0950	720	24.11	<b></b>		
MW-12	NA	NA	NA	NA	NA	NA	NA			DO NOT SAMPLE

Notes:

Water measurement and sampling order: MW-2, MW-1.



Site Address: ENSR No. Unocal No. Well Purging: Date Purged:_	Disposable balle	kiah, CA  er/other  pvc 2.00		Well/Piezo ID: Well X Field Tech(s):_ Weather Condi	Piezometer   tions:   3/4" = 0.02 1" = 0.04	6" = 1.50 12" = 5.80	2 23 4	-		
Water Column	***************************************	0.43	gal (WC X VF)	80% Recovery	from TOC: = Total De	ټر pth - (Water Colu	mn X .8) =	999		
Time	Volume	DO	Redox	Temperature		рН	Turbidity	Color/Clarity	Other	Other
	Removed (gal)	(mg/L)	Potential (ORP) (mVolts)	(°C)	Conductivity (uS/cm)		(NTUs)			
1030	0 /2.5	8.97	172	18.8	32.0	Cill	75	CLR		T
1035	1 1.5	6.22	125	18.6	31.7	<del>- 1</del>		MILKY		
injus	2 2.5	4:15	<del>                                     </del>	18.7	20.0					
1645	3 3.5	J.18	135	8.4	304	1.10		1 77 1		-
	4	4.0	<del>                                     </del>	+ 10:4	*24		1		······································	<u> </u>
Sample Type:	nod: Disposable I	and the second s			1948 - 1					
	# of containers		tainer Type	Preservation		***	Analysis			Time
nw-9	3	<b>{</b>	-mL VOA	lce/HCI	TPHg / BTEX (8260	))				1059
<b>—</b>	1	1	-L Amber	None	TRPH (1664)				·····	1055
<b></b>	1	<del>}</del>	-mL Amber	None	TPHd (8015M)			***************************************		1655
<b></b>	1	50	0-mL Poly	HNO3	Total Lead (6010)					1044
,				***************************************				.79		
L										
Comments:								<u>t.</u>		
						<i></i>				
Signature:		The second secon			Date:	11/16/6		<i>,</i>		



GROUNDWAT	TER SAMPLING	DATA SHEE	ET .	Well/Piezo ID:	MW-6				
	122 Leslie St., Ul		•						
	06940-264-100			Well 🗓	Piezometer				
Unocal No.	813				Marine Ma				
	1 1	market Programme 1111			100				
Well Purging:		ng		Field Tech(s):	())(10		********	eri e	
Date Purged:	1/16/07	the factor of	***	Weather Condit	iona: (Suba)	<b>4</b>			
Purge Method	Disposable baile	ewotner		vveather Condi	ions. <u>79 to 70</u>				
Casing Materia	H	VC							
Well Diameter		2.00	in.						
Total Depth:		23.41	ft from TOC	Volume	3/4" = 0.02 1" = 0.04	2" = .16 3" = .38		1	
Depth to Wate	r: <u>1,6</u>	<u>5.64</u>	ft from TOC	Factor (VF)	4" = .66 5" = 1.02	6" = 1.50 12" = 5.80			
Water Column		<u> 1.7.7</u>	ft.			3/27		19 -9	
Water Column	ı Volume:	0 m	gal (WC X VF)	80% Recovery	from TOC: = Total D	epth - (Water Colu	mn X .8) =	1(,)	
Time	Volume	DO	Redox	Temperature	Specific	рН	Turbidity	Color/Clarity	Other
1 HIIC	Removed	Ю	Potential (ORP)	remperature	Conductivity	pr i	raibidity	Colon Gianty	Ouner
	(gal)	(mg/L)	(mVolts)	(°C)	(uS/cm)		(NTUs)	•	
11 10	00.5	9.74	18%	16.8	22.6	6.2	-5	LT PREU	)
1116	1 1 5	8.27		16.7	722.5	6.2	677	uule	
1120	2 2	10.63	168	16.7	-zz. 4	6.1	410	7 7 7	
1125	3 8 6	1019	1810	(1/2).7	224	60.0	233	10	
14-7	4		<del>                                     </del>	180					<del></del>
								1	
						<u>\$</u>			
						1			
Sample Colle	ction:	11					<i>A</i> '		
Date Sampled	1: <u>12 (6 /</u>	25	Charles A.						
	hod(Disposable l	Bailer / Othe							
Sample Type:	Grab					•			
Comple ID	# of containers	C	tolnor Trans	Preservation			Analysis		
Sample ID	# Of containers		tainer Type	Preservation	TDU~ (DTEV (996	× ×	Allarysis		

Sample ID	# of containers	Container Type	Preservation	Analysis	Time
mo-6	3	40-mL VOA	Ice/HCI	TPHg / BTEX (8260)	1135
	1	1-L Amber	None	TRPH (1664)	U35
1	1	250-mL Amber	None	TPHd (8015M)	1135
	1	500-mL Poly	HNO3	Total Lead (6010)	1175
					<u> </u>
				38/4	

Comments:

✓Signature:
\_

Date:

1/16/07

Other



Time	Volume	DO	Redox	Temperature	Sne			nΗ	Turbidity	
Water Column: Water Column			ft. gal (WC X VF)	80% Recovery	from TOC:	= Total D	epth - (W	ater Columi	n X .8) =	ľ
Depth to Water	•		ft from TOC	Factor (VF)	4" = .66	5" = 1.02	6" = 1.50	12" = 5.80		
	, ~7	F 3		1			2" = .16	3 = .38		
Total Depth:			ft from TOC	Volume	3/4" = 0.02	1" = 0.04	0" - 46	3" = .38		
Well Diameter:		2.00	in.							
Casing Materia	K	VC_								
Purge Method:	Disposable bailen	ether		Weather Condi	tions:			*******************************		_
Date Purged:		_				SUR	3 J			
	U /Lla AS			Field Tech(s):_	**************************************	- \3 \ \			100-0	
Well Purging:				F: -!-! TF!-/-).	-	San	esergen)			
Unocal No. 8	313					Market Market St. 1887				
	06940-264-100			Well 🔀	Piezomet	er 🗌				
	122 Leslie St., Uki	ah, CA		_						
	ER SAMPLING D		T	Well/Piezo ID:	8-WM					

Time	Volume Removed	DO	Redox Potential (ORP)	Temperature	Specific Conductivity	рН	Turbidity	Color/Clarity	Other	Other
Market Control	(gal)_	(mg/L)	(mVolts)	(°C)	(uS/cm)		(NTUs)			
1155	0 p.5	12.7	プレ	16.8	てこべ	66	2.70	CLR		
7143	1 i.5_	10.8	34	16.7	23.6	7a . +	284	CLE		
1145	2 2.5	6.4	39	1007	2-3-2-	2.4	100	7.00		
1150	3 3.5	10.B	46	(e.B	232	6.7	<u>QB</u>	1/		
	4		`			ξ.				

Sample Collection:
Date Sampled:
Sampling Method: Disposable Bailen Other
Sample Type: Grab

	# of containers	Container Type	Preservation	Analysis	Time
100 - 80	3	40-mL VOA	Ice/HCI	TPHg / BTEX (8260)	1200
(	1	1-L Amber	None	TRPH (1664)	1200
	1	250-mL Amber	None	TPHd (8015M)	600
	1	500-mL Poly	HNO3	Total Lead (6010)	12-00
···					

Comments:

Signature:

Date: 1/165



GROUNDWA	TER SAMPLING	DATA SHE	ET	Well/Piezo ID:	MW-7					
	122 Leslie St., U	kiah, CA		*******						
ENSR No.	06940-264-100			Well 🗓	Piezometer					
Unocal No.	813	/			The state of the s					
Well Purging			_	Field Tech(s):	100					
Date Purged:		5 th	TEMP	rield recit(a)	**************************************	. 3		_		
	l: Disposable balle	er/ether		Weather Condit	ions: 9/0	NY				
	(T)				***************************************			•		
Casing Materi		1	_							
Well Diamete	T.	4.00		*****						
Total Depth:	H.	24.58 2 <u>1</u> 0	8 ft from TOC	Volume	3/4" = 0.02 1" = 0.04					
Depth to Wate		7 CV	_ ft from TOC	Factor (VF)	4" = .66 5" = 1.02	6" = 1.50 12" = 5.80				
Water Columi Water Columi		5-20	_ ft. _ gal (WC X VF)	80% Recovery f	rom TOC: = Total De	ppth - (Water Colum	nn X .8) =	8-18		
				•						
Time	Volume	DO	Redox	Temperature	Specific	pН	Turbidity	Color/Clarity	Other	Other
	Removed	( / 1 )	Potential (ORP)	(60)	Conductivity		AITHA			
1.4 .00	(gal)	(mg/L)	(mVolts)	(°C)	(uS/cm)	<del></del>	(NTUs)	T 27.5		
1208		7.8		18.8	22	<u> </u>	184	CLR		
1216	1 6.0	6.2	238	18.7	22	<u></u>	10			
222	2 12 0	6.9	241	15.6	-232	<u></u>		111		
22,0	₃ ।ॡ.०	5.b	242	16.9	22	<u> </u>	es	ANT.		
	4				,				<del>, , . ,</del>	
		ggy (grapher.								
Sample Colle		A COUNTY OF THE PARTY OF THE PA	10 T 10							
Date Sample			MUALINA							
Sampling Mei	thod: Disposable I	Ballet W. Otne	<u></u>	***********						
Sample Type	- DI all_									
Sample ID	# of containers	Con	tainer Type	Preservation		***************************************	Analysis			Time
Vun-7	3	***************************************	D-mL VOA	Ice/HCI	TPHg / BTEX (8260					1226
	1	1.	-L Amber	None	TRPH (1664)	· /				1235
7	1		)-mL Amber	None	TPHd (8015M)					1224
t	1	·····	0-mL Poly	HNO3	Total Lead (6010)	***************************************				107
	-			,,,,,	Total Zeaa (60 ) 6)					1-143/
							·····	***************************************		
L			1							<u> </u>
Comments:										
	and the same of th									
Signaturo	$-\Delta$				Defe	A locality	2			



Comments:

Site Address: ENSR No. Unocal No. Well Purging: Date Purged:	FER SAMPLING 122 Leslie St., UI 06940-264-100 813 Disposable bails	kiah, CA		Well/Piezo ID:  Well []  Field Tech(s):  Weather Conditi	···					
Casing Materia	al.	ナリム	•							
Well Diameter	:	2.00		-				7		
Total Depth:		25.91	ft from TOC		3/4" = 0.02 1" = 0.04			ALCOHOLOGY AND		
Depth to Wate Water Column		<u>0.470</u>	ft from TOC ft.	Factor (VF)	······································	6" = 1.50	//%			
Water Column		1.12	gal (WC X VF)	80% Recovery fi	rom TOC: = Total De	epth - (Water Col	umn X .8) =2	0.29		
Time	Volume Removed	DO	Redox Potential (ORP)	Temperature	Specific Conductivity	рН	Turbidity (NTUs)	Color/Clarity	Other	Other
1240	(gal) 0 ₺ ≼	(mg/L) 10:3	(mVolts) っぴ	(°C)	(uS/cm)	(- )	(NIUS) (NIUS)	NULLY		
		8 1			27	<u> </u>	2,69	LT 1940	······································	
12.50	1 2.0	5.5	1 212	18.3	27	6.4	184	LT 02-19		
	2 3.5 3 4.5	1.4.	129		27	10.2		1-1 alance		
1255	3 4, 5	U , M	<u> </u>	1-18-4-		4.4	122	The grant of the		
	4							<u> </u>		
								-		
			<u> </u>							4
Sample Colle Date Sampled Sampling Met Sample Type:	i: \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	Bailer Othe	- Constitution of the Cons	Parking,						
	# of containers	Con	tainer Type	Preservation			Analysis			Time
Mu-4	3	<del>†</del>	-mL VOA	Ice/HCI	TPHg / BTEX (8260	0)				1305
4	1	1.	-L Amber	None	TRPH (1664)					1305
	1	250	-mL Amber	None	TPHd (8015M)					1305
<b></b>	1	50	0-mL Poly	HNO3	Total Lead (6010)			···		1305

Date:



Site Address: ENSR No. Unocal No.  Well Purging: Date Purged: Purge Method  Casing Materi Well Diameter Total Depth: Depth to Water Water Column	at: Princer:	2.00 2.24.29	in. If the the thick is the thick is the thick is the thick in the thick is the thick in the thick in the thick is the thick in the thi	Well/Piezo ID: Well [] Field Tech(s): Weather Condit  Volume Factor (VF)	3/4" = 0.02 1" = 0.04 4" = .66 5" = 1.02	6" = 1.50 12" = 5.80				
12,00   12,65   13,23   13,25	Volume:\ Volume Removed (gal)  0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	DO (mg/L)	Redox Potential (ORP) (mVolts)  - 106 - 117 - 122	80% Recovery	Specific Conductivity (uS/cm)  68.8  76.7  55.7	pH  (Water Colur	Turbidity (NTUs) 272 471 505	Color/Clarity  CUR  ()  ()	Other	Other
Sample Type:	hop. Disposable	Con	tainer Type	Preservation Ice/HCI	TPHg / BTEX (8260		Analysis			Time
	1	1-	-L Amber	None	TRPH (1664)		<del></del> -			1335

Sample ID	# of containers	Container Type	Preservation	Analysis	Time
Mu-3	3	40-mL VOA	Ice/HCI	TPHg / BTEX (8260)	1335
/:	1	1-L Amber	None	TRPH (1664)	1335
\	1	250-mL Amber	None	TPHd (8015M)	1355
J	1	500-mL Poly	HNO3	Total Lead (6010)	1235
				3	, v

Signature:

Date: 1/16/8/5

8 78,



GROUNDWATER	CARADI	INC DATA	CHEET
( 187 ( ))	SAMP	INICIDIA	>H I

Site Address: 122 Leslie St., Ukiah, CA

ENSR No. 06940-264-100

Unocal No. 813

Well Purging:

Date Purged:

Purge Method Disposable bailer ether

Casing Material:

Well Diameter:

Total Depth: Depth to Water:

Water Column:

Water Column Volume:

gal (WC X VF)

2.00 in. 25.91 ft from TOC

ft from TOC

Well/Piezo ID: MW-2

Well X

Piezometer [

Field Tech(s)

Weather Conditions:

Volume Factor (VF) 3/4" = 0.02 1" = 0.04 2" = .16 3" = .38

5" = 1.02 6" = 1.50 12" = 5.80

80% Recovery from TOC: = Total Depth - (Water Column X .8) =

Time	Volume Removed	DO	Redox Potential (ORP)	Temperature	Specific Conductivity	рН	Turbidity	Color/Clarity	Other	Other
	(gal)	(mg/L)	(mVolts)	(°C)	(uS/cm)		(NTUs)			v .
1336	005	11.4	- 44	16.4	28.3	7.0	-5.0	CLO		1
1345	1 1.5	8.5	- 46	16.27	2,75	Co.E	-5.0	IGOE9		
13.40	2 2.5	6.3	_ 49	14.0	<b>2</b> 9.9	6.0	- 47.0	LA CRES		
1349	3 3.5	4.0	- 49,	17.8	70.4	6.6	- 5.0	1, 1,		
	4	Ų Š								

Sample Collection:

Date Sampled:

Sampling Method: Disposable Bailer / Other

Sample Type: Orab

Sample ID	# of containers	Container Type	Preservation	Analysis	Time
Mw-2	3	40-mL VOA	Ice/HCI	TPHg / BTEX (8260)	No
	1	1-L Amber	None	TRPH (1664)	1400
(	1	250-mL Amber	None	TPHd (8015M)	i i i i i i i i i i i i i i i i i i i
	1	500-mL Poly	HNO3	Total Lead (6010)	1000
	1	250-mL Amber	None	Bromate (300)	1400
	1	500-mL Poly	None	Bromide (300.0)	1400
/	1	500-mL Poly	None	Chromium VI (7199) / pH (150.1)	COPI
L	1	500-mL Poly	HNO3	Molybdenum (200.7) / Selenium (200.9) / Vanadium (200.7)	

Comments:

FIRED FUT

Signature:



GROUNDWATER SAMPLING DATA SHEET  Site Address: 122 Leslie St., Ukiah, CA ENSR No. 06940-264-100 Unocal No. 813  Well Purging: Date Purged: Purge Method: Disposable bailer/other  Casing Material: Well Diameter: 2.00 in. Total Depth: 23.39 ft from TOC Depth to Water: 4 ft from TOC Water Column: 4 ft. Water Column Volume: 9 72 gal (WC X VF)	Well/Piezo ID:       MW-5         Well X       Piezometer □         Field Tech(s):       Piezometer □         Weather Conditions:       Weather Conditions:         Volume 3/4" = 0.02 1" = 0.04 2" = .16 3" = .38         Factor (VF) 4" = .66 5" = 1.02 6" = 1.50 12" = 5.80         80% Recovery from TOC: = Total Depth - (Water Column X .8)	n = 19.80
Time Volume Removed (gal) (mg/L) (mVolts)    V 35   0   0.5   7.7   - 24     V 46   1   1.5   6.2   - 26     V 45   2   2.5   4.1   - 25     V 45   3   3.5   3.5   - 3.5   - 3.5	Temperature Specific pH Tu	rbidity Color/Clarity Other Other  NTUs)  71 CUR  72-3 "  69 "
Sample Collection: Date Sampled: Sampling Method: Disposable Bailer Other Sample Type: Gab		

Sample ID	# of containers	Container Type	Preservation Analysis		Time		
	3	40-mL VOA	Ice/HCI	TPHg / BTEX (8260)	1500		
	1	1-L Amber	None	TRPH (1664)	1500		
	1	250-mL Amber	None	TPHd (8015M)	1500		
	1	500-mL Poly	HNO3	Total Lead (6010)	<u>\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\</u>		

Signature: Date: 11 6/05



Signature:

GROUNDWATER SAMPLING DATA SHEET  Site Address: 122 Leslie St., Ukiah, CA  ENSR No. 06940-264-100  Unocal No. 813  Well Purging: Date Purged: Purge Method: Disposable bailerother  Casing Material: Well Diameter: Total Depth: Depth to Water: Water Column:  12.00 in. 12.00 in. 12.00 ft from TOC 12.00 ft.			Well/Piezo ID: Well X Field Tech(s):_ Weather Condit  Volume Factor (VF)	3/4" = 0.02 1" = 0.04 4" = .66 5" = 1.02								
Water Colum	n Volume:	gal (WC X VF)	80% Recovery	from TOC: = Total De	epth - (Water Colu	mn X .8) =	18.66		***			
Time	Volume Removed (gal)	DO Redox Potential (ORP) (mg/L) (mVolts)	Temperature	Specific Conductivity (uS/cm)	рН	Turbidity (NTUs)	Color/Clarity	Other	Other			
1515	0 0.5	9.7 - 9%	189	29.7	6.8	57.0	LT CREY	CATINIXY	MINICOLO			
1520	1 1.5	24 09	18.8	29.7	6.9		LT GREE	Tr				
1525	21.5	11.60 -103	189		E . C	-5.0	CT GALG	4				
1530	3 3.5	49 -110	189	79.9 30.4	6.4	= <u>\$</u> .0	(1)	e <sub>r</sub>				
	4											
Sample Type:	d: \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\							en Ti				
	# of containers	Container Type	Preservation			Analysis			Time			
L WW-L	3	40-mL VOA	Ice/HCI	TPHg / BTEX (8260	) .		4, 4		1540			
<del>- (</del>	1	1-L Amber	None	TRPH (1664) *					<u>(540 </u>			
<b></b>	1	250-mL Amber	None	TPHd (8015M)					(440			
<del> &gt;</del>	1	500-mL Poly	HNO3	Total Lead (6010)					1540			
<del>                                     </del>	1	250-mL Amber	None	Bromate (300)			1500					
<b> /</b>	1	500-mL Poly	None	Bromide (300.0)				1540				
	1	500-mL Poly	None	Chromium VI (7199	) / pH (150.1)				r540			
	11	500-mL Poly	HNO3	Molybdenum (200.7	') / Selenium (200.	9) / Vanadium (2	200.7)		1540			
Comments:	Comments: Front (Desce) Sured ! FIED FIT											

6/05

### **ATTACHMENT C**

LABORATORY ANALYTICAL RESULTS WITH CHAIN-OF-CUSTODY DOCUMENTATION



208 Mason Street, Ukiah, California 95482

e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

04 October 2005

Margret Riggin

**ENSR International** 

10411 Old Placerville Rd., Suite 210

Sacramento, CA 95827-2508

RE: Unocal #0813, Ukiah

Work Order: A509493

Enclosed are the results of analyses for samples received by the laboratory on 09/19/05 17:20. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Nena M. Burgess For Sheri L. Speaks

Project Manager



208 Mason Street, Ukiah, California 95482

e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

Sacramento CA, 95827-2508 **ENSR International** 

Project Manager: Margret Riggin

Project: Unocal #0813, Ukiah

Reported: 10/04/05 09:01

10411 Old Placerville Rd., Suite 210

Project Number: 06940-264-100

#### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1	A509493-01	Water	09/19/05 15:55	09/19/05 17:20
MW-2	A509493-02	Water	09/19/05 16:45	09/19/05 17:20
QA	A509493-03	Water	09/19/05 00:00	09/19/05 17:20

Alpha Analytical Laboratories, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



208 Mason Street, Ukiah, California 95482

e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

Sacramento CA, 95827-2508 **ENSR International** 

10411 Old Placerville Rd., Suite 210

Project Manager: Margret Riggin

Project: Unocal #0813, Ukiah Project Number: 06940-264-100

Reported: 10/04/05 09:01

Metals by EPA 200 Series Methods

# Alpha Analytical Laboratories, Inc.

Analyte	Result	Reporting MDL Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-1 (A509493-01) Water	Sampled: 09/19/05 15:55	Received: 09/19/05 17:	20						
Lead	0.0063	0.0020	mg/l	1	AI51902	09/20/05	09/29/05	EPA 200.9	
MW-2 (A509493-02) Water	Sampled: 09/19/05 16:45	Received: 09/19/05 17:	20						
Lead	0.063	0.0080	mg/l	4	AI51902	09/20/05	10/03/05	EPA 200.9	

Alpha Analytical Laboratories, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



208 Mason Street, Ukiah, California 95482

e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

Sacramento CA, 95827-2508 Project Manager: Margret Riggin

ENSR International Project: Unocal #0813, Ukiah Reported: 10411 Old Placerville Rd., Suite 210 Project Number: 06940-264-100 10/04/05 09:01

### Metals (Dissolved) by EPA 200 Series Methods Alpha Analytical Laboratories, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-1 (A509493-01) Water	Sampled: 09/19/05 15:55	Received:	09/19/05 17:2	20						
Molybdenum, dissolved	ND	0.0014	0.020	mg/l	1	AI52009	09/20/05	09/30/05	EPA 200.7	U
Selenium, dissolved	ND		0.0050	"	"	"	"	09/27/05	EPA 200.9	
Vanadium, dissolved	ND	0.0022	0.010	"	"	"	"	09/30/05	EPA 200.7	U
MW-2 (A509493-02) Water	Sampled: 09/19/05 16:45	Received:	09/19/05 17:2	20						
Molybdenum, dissolved	ND	0.0014	0.020	mg/l	1	AI52009	09/20/05	09/30/05	EPA 200.7	U
Selenium, dissolved	ND		0.0050	"	"	"	"	09/27/05	EPA 200.9	
Vanadium, dissolved	ND	0.0022	0.010	"	"	"	"	09/30/05	EPA 200.7	U

Alpha Analytical Laboratories, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



208 Mason Street, Ukiah, California 95482

e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

Sacramento CA, 95827-2508

Project Manager: Margret Riggin

**ENSR International** 

Project: Unocal #0813, Ukiah

Reported:

10411 Old Placerville Rd., Suite 210

Project Number: 06940-264-100

10/04/05 09:01

### Metals by EPA 6000/7000 Series Methods Alpha Analytical Laboratories, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-1 (A509493-01) Water	Sampled: 09/19/05 15:55	Received:	09/19/05 17:2	20						
Chromium, hexavalent	ND	0.00011	0.0010	mg/l	1	AI52002	09/20/05	09/20/05	EPA 7199	U
MW-2 (A509493-02) Water	Sampled: 09/19/05 16:45	Received:	09/19/05 17:2	20						
Chromium, hexavalent	ND	0.00011	0.0010	mg/l	1	AI52002	09/20/05	09/20/05	EPA 7199	U

Alpha Analytical Laboratories, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



208 Mason Street, Ukiah, California 95482

e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

Sacramento CA, 95827-2508

Project Manager: Margret Riggin

. .

ENSR International 10411 Old Placerville Rd., Suite 210

Project: Unocal #0813, Ukiah Project Number: 06940-264-100

Reported: 10/04/05 09:01

### Conventional Chemistry Parameters by APHA/EPA Methods Alpha Analytical Laboratories, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-1 (A509493-01) Water	Sampled: 09/19/05 15:55	Received:	09/19/05 17::	20						
pН	6.3		1.0	pH Units	1	AI52018	09/20/05	09/20/05	EPA 150.1	
Oil & Grease (HEM-SG)	ND		5.0	mg/l	"	AI53015	09/30/05	10/03/05	EPA 1664	
MW-2 (A509493-02) Water	Sampled: 09/19/05 16:45	Received:	09/19/05 17:	20						
pН	6.5		1.0	pH Units	1	AI52018	09/20/05	09/20/05	EPA 150.1	
Oil & Grease (HEM-SG)	ND		5.0	mg/l	"	AI53015	09/30/05	10/03/05	EPA 1664	

Alpha Analytical Laboratories, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



208 Mason Street, Ukiah, California 95482

e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

Sacramento CA, 95827-2508

Project Manager: Margret Riggin

ENSR International

Project: Unocal #0813, Ukiah

Reported: 10/04/05 09:01

10411 Old Placerville Rd., Suite 210

Project Number: 06940-264-100

## TPH by EPA/LUFT GC/GCMS Methods Alpha Analytical Laboratories, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-1 (A509493-01) Water S	ampled: 09/19/05 15:55	Received:	09/19/05 17:20							
TPH as Diesel	3600		50	ug/l	1	AI52810	09/28/05	09/28/05	8015DRO	
TPH as Gasoline	1200		250	"	5	AI52626	09/22/05	09/25/05	8260GRO	
Surrogate: Tetratetracontane		104 %	20-152			AI52810	09/28/05	09/28/05	8015DRO	
Surrogate: Toluene-d8		110 %	86-141			AI52626	09/22/05	09/25/05	8260GRO	
MW-2 (A509493-02) Water S	ampled: 09/19/05 16:45	Received:	09/19/05 17:20							
TPH as Diesel	120		50	ug/l	1	AI52810	09/28/05	09/28/05	8015DRO	
TPH as Gasoline	150		50	"	"	AI52626	09/22/05	09/24/05	8260GRO	
Surrogate: Tetratetracontane		154 %	20-152			AI52810	09/28/05	09/28/05	8015DRO	S-01
Surrogate: Toluene-d8		111 %	86-141			AI52626	09/22/05	09/24/05	8260GRO	
QA (A509493-03) Water Sam	pled: 09/19/05 00:00 R	eceived: 09/	19/05 17:20							
TPH as Gasoline	ND		50	ug/l	1	AI52626	09/22/05	09/24/05	8260GRO	
Surrogate: Toluene-d8		111 %	86-141			"	"	"	"	

Alpha Analytical Laboratories, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



208 Mason Street, Ukiah, California 95482

e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

Sacramento CA, 95827-2508 Project Manager: Margret Riggin

ENSR International Project: Unocal #0813, Ukiah Reported: 10411 Old Placerville Rd., Suite 210 Project Number: 06940-264-100 10/04/05 09:01

### Volatile Organic Compounds by EPA Method 8260B Alpha Analytical Laboratories, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-1 (A509493-01) Water Sampled	l: 09/19/05 15:55	Received: (	09/19/05 17:20							
Benzene	0.35		0.30	ug/l	1	AI52811	09/27/05	09/28/05	EPA 8260B	_
Toluene	ND		0.30	"	"	"	"	"	"	
Ethylbenzene	ND		0.50	"	"	"	"	"	"	
Xylenes (total)	ND		0.50	"	"	"	"	"	"	
Surrogate: Bromofluorobenzene		102 %	78-138			"	"	"	"	
Surrogate: Dibromofluoromethane		88.8 %	71-136			"	"	"	"	
Surrogate: Toluene-d8		108 %	88-139			"	"	"	"	
MW-2 (A509493-02) Water Sampled	l: 09/19/05 16:45	Received: 0	09/19/05 17:20							
Benzene	ND		0.30	ug/l	1	AI52803	09/22/05	09/24/05	EPA 8260B	
Toluene	ND		0.30	"	"	"	"	"	n	
Ethylbenzene	ND		0.50	"	"	"	"	"	"	
Xylenes (total)	ND		0.50	"	"	"	"	"	"	
Surrogate: Bromofluorobenzene		103 %	78-138			"	"	"	"	
Surrogate: Dibromofluoromethane		96.0 %	71-136			"	"	"	"	
Surrogate: Toluene-d8		111 %	88-139			"	"	"	"	
QA (A509493-03) Water Sampled: 0	9/19/05 00:00 Re	eceived: 09/1	19/05 17:20							
Benzene	ND		0.30	ug/l	1	AI52803	09/22/05	09/24/05	EPA 8260B	
Toluene	ND		0.30	"	"	"	"	"	"	
Ethylbenzene	ND		0.50	"	"	"	"	"	"	
Xylenes (total)	ND		0.50	"	"	"	"	"	"	
Surrogate: Bromofluorobenzene		101 %	78-138			"	"	"	"	
Surrogate: Dibromofluoromethane		108 %	71-136			"	"	"	"	
Surrogate: Toluene-d8		111 %	88-139			"	"	"	"	

Alpha Analytical Laboratories, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

1995-



208 Mason Street, Ukiah, California 95482

e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

Sacramento CA, 95827-2508 Project Manager: Margret Riggin

ENSR International Project: Unocal #0813, Ukiah Reported: 10411 Old Placerville Rd., Suite 210 Project Number: 06940-264-100 10/04/05 09:01

# Metals by EPA 200 Series Methods - Quality Control Alpha Analytical Laboratories, Inc.

			Reporting		Spike	Source		%REC		RPD	
Analyte	Result	MDL	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch AI51902 - EPA 200.2 Hot Plat	e										
Blank (AI51902-BLK1)					Prepared: (	09/19/05 A	Analyzed: 09	9/29/05			
Lead	ND		0.0020	mg/l							
LCS (AI51902-BS1)					Prepared: (	09/19/05 A	Analyzed: 09	9/29/05			
Lead	0.102		0.020	mg/l	0.100		102	85-115			
LCS Dup (AI51902-BSD1)					Prepared: (	09/19/05 A	Analyzed: 09	9/29/05			
Lead	0.0947		0.020	mg/l	0.100		94.7	85-115	7.42	20	
<b>Duplicate (AI51902-DUP1)</b>		Source: A5	509352-01		Prepared: (	09/19/05 A	Analyzed: 09	9/29/05			
Lead	ND		0.0020	mg/l		ND				20	
Matrix Spike (AI51902-MS1)		Source: A5	509352-01		Prepared: (	09/19/05 A	Analyzed: 09	9/29/05			
Lead	0.0949		0.020	mg/l	0.100	ND	94.9	70-130			
Matrix Spike Dup (AI51902-MSD1)		Source: A5	509352-01		Prepared: (	09/19/05 A	Analyzed: 09	9/29/05			
Lead	0.0984		0.020	mg/l	0.100	ND	98.4	70-130	3.62	20	

Alpha Analytical Laboratories, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



208 Mason Street, Ukiah, California 95482

e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

Sacramento CA, 95827-2508

**ENSR International** 10411 Old Placerville Rd., Suite 210 Project Manager: Margret Riggin

Project: Unocal #0813, Ukiah Project Number: 06940-264-100

Reported: 10/04/05 09:01

### Metals (Dissolved) by EPA 200 Series Methods - Quality Control Alpha Analytical Laboratories, Inc.

1											
Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
		WIDE	Liiiit	Omts	Level	Result	70KLC	Limits	КГБ	Emin	rvotes
Batch AI52009 - EPA 200.2 Hot I	Plate										
Blank (AI52009-BLK1)					Prepared: (	09/20/05 A	nalyzed: 10	/03/05			
Molybdenum, dissolved	ND	0.0014	0.020	mg/l							U
Selenium, dissolved	ND		0.0050	"							
Vanadium, dissolved	ND	0.0022	0.010	"							U
LCS (AI52009-BS1)					Prepared: (	09/20/05 A	nalyzed: 10	/03/05			
Molybdenum, dissolved	0.103	0.0014	0.020	mg/l	0.100		103	85-115			
Selenium, dissolved	0.00995		0.0050	"	0.0100		99.5	85-115			
Vanadium, dissolved	0.0992	0.0022	0.010	"	0.100		99.2	85-115			
LCS Dup (AI52009-BSD1)					Prepared: (	09/20/05 A	nalyzed: 10	/03/05			
Molybdenum, dissolved	0.103	0.0014	0.020	mg/l	0.100		103	85-115	0.00	20	
Selenium, dissolved	0.00999		0.0050	"	0.0100		99.9	85-115	0.401	20	
Vanadium, dissolved	0.101	0.0022	0.010	"	0.100		101	85-115	1.80	20	
Duplicate (AI52009-DUP1)		Source:	A509493-01		Prepared: (	09/20/05 A	nalyzed: 09	/30/05			
Molybdenum, dissolved	ND	0.0014	0.020	mg/l		ND				20	U
Selenium, dissolved	ND		0.0050	"		ND				20	
Vanadium, dissolved	ND	0.0022	0.010	"		ND				20	U
Matrix Spike (AI52009-MS1)		Source:	A509493-01		Prepared: (	09/20/05 A	nalyzed: 09	/30/05			
Molybdenum, dissolved	0.0974	0.0014	0.020	mg/l	0.100	ND	97.4	70-130			
Selenium, dissolved	0.00789		0.0050	"	0.0100	ND	78.9	70-130			
Vanadium, dissolved	0.0975	0.0022	0.010	"	0.100	ND	97.5	70-130			
Matrix Spike Dup (AI52009-MSD1)		Source:	A509493-01	<u> </u>	Prepared: (	09/20/05 A	nalyzed: 09	/30/05			
Molybdenum, dissolved	0.102	0.0014	0.020	mg/l	0.100	ND	102	70-130	4.61	20	
Selenium, dissolved	0.00811		0.0050	"	0.0100	ND	81.1	70-130	2.75	20	
Vanadium, dissolved	0.101	0.0022	0.010	"	0.100	ND	101	70-130	3.53	20	

Alpha Analytical Laboratories, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



208 Mason Street, Ukiah, California 95482

e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

Sacramento CA, 95827-2508 Project Manager: Margret Riggin

ENSR International Project: Unocal #0813, Ukiah Reported: 10411 Old Placerville Rd., Suite 210 Project Number: 06940-264-100 10/04/05 09:01

### Metals by EPA 6000/7000 Series Methods - Quality Control

### Alpha Analytical Laboratories, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch AI52002 - EPA 7199 Cr6 Wa	ter										
Blank (AI52002-BLK1)					Prepared &	Analyzed	: 09/20/05				
Chromium, hexavalent	ND	0.00011	0.0010	mg/l							U
LCS (AI52002-BS1)					Prepared &	Analyzed	: 09/20/05				
Chromium, hexavalent	0.00197	0.00011	0.0010	mg/l	0.00200		98.5	80-120			
LCS Dup (AI52002-BSD1)					Prepared &	Analyzed	09/20/05				
Chromium, hexavalent	0.00196	0.00011	0.0010	mg/l	0.00200		98.0	80-120	0.509	20	
Duplicate (AI52002-DUP1)		Source:	A509493-01		Prepared &	Analyzed	: 09/20/05				
Chromium, hexavalent	ND	0.00011	0.0010	mg/l		ND				30	U
Matrix Spike (AI52002-MS1)		Source:	A509493-01		Prepared &	Analyzed	09/20/05				
Chromium, hexavalent	0.00435	0.00011	0.0010	mg/l	0.00400	ND	109	70-130			
Matrix Spike Dup (AI52002-MSD1)		Source:	A509493-01		Prepared &	Analyzed	09/20/05				
Chromium, hexavalent	0.00425	0.00011	0.0010	mg/l	0.00400	ND	106	70-130	2.33	20	

Alpha Analytical Laboratories, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



8.50

208 Mason Street, Ukiah, California 95482

e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

Sacramento CA, 95827-2508

10411 Old Placerville Rd., Suite 210

Project Manager: Margret Riggin

**ENSR International** 

Oil & Grease (HEM-SG)

Project: Unocal #0813, Ukiah

Project Number: 06940-264-100

Reported: 10/04/05 09:01

### Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control Alpha Analytical Laboratories, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch AI52018 - General Prepar	ation										
<b>Duplicate (AI52018-DUP1)</b>		Source: A	509498-01		Prepared &	Analyzed:	09/20/05				
рН	7.00		1.0	pH Units		7.0			0.00	20	
Batch AI53015 - General Prepar	ation										
Blank (AI53015-BLK1)					Prepared: (	9/30/05 A	nalyzed: 10	0/03/05			
Oil & Grease (HEM-SG)	ND		5.0	mg/l							
LCS (AI53015-BS1)					Prepared: (	9/30/05 A	nalyzed: 10	0/03/05			
Oil & Grease (HEM-SG)	8.60		5.0	mg/l	10.0		86.0	66-114			
LCS Dup (AI53015-BSD1)					Prepared: (	9/30/05 A	nalyzed: 10	0/03/05			

5.0 mg/l

10.0

Alpha Analytical Laboratories, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

85.0

66-114

1.17



208 Mason Street, Ukiah, California 95482

e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

Sacramento CA, 95827-2508

ENSR International

10411 Old Placerville Rd., Suite 210

Project Manager: Margret Riggin

Project: Unocal #0813, Ukiah

Project Number: 06940-264-100

Reported: 10/04/05 09:01

### $TPH\ by\ EPA/LUFT\ GC/GCMS\ Methods\ -\ Quality\ Control$

### Alpha Analytical Laboratories, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch AI52626 - EPA 5030 Water			Zimit	J	20.01	reguit	,,,,,	2		2,,,,,,	1.0.05
Blank (AI52626-BLK1)					Prepared: (	)9/22/05 A	nalyzed: 09	0/23/05			
TPH as Gasoline	ND		50	ug/l	•						
Surrogate: Toluene-d8	27.5			"	25.0		110	86-141			
LCS (AI52626-BS1)					Prepared: (	09/22/05 A	nalyzed: 09	/24/05			
TPH as Gasoline	241		50	ug/l	200		120	75-126			
Surrogate: Toluene-d8	25.1			"	25.0		100	86-141			
LCS Dup (AI52626-BSD1)					Prepared: (	)9/22/05 A	nalyzed: 09	/24/05			
TPH as Gasoline	224		50	ug/l	200		112	75-126	7.31	20	
Surrogate: Toluene-d8	24.5			"	25.0		98.0	86-141			
Matrix Spike (AI52626-MS1)		Source:	A509452-02		Prepared: (	09/22/05 A	nalyzed: 09	/24/05			
TPH as Gasoline	234		50	ug/l	200	19	108	32-166			
Surrogate: Toluene-d8	24.6			"	25.0		98.4	86-141			
Batch AI52810 - EPA 3510B Water	er										
Blank (AI52810-BLK1)					Prepared &	z Analyzed:	09/28/05				
TPH as Diesel	ND		50	ug/l							
Surrogate: Tetratetracontane	113			"	125		90.4	20-152			
LCS (AI52810-BS1)					Prepared &	Analyzed:	09/28/05				
TPH as Diesel	1640		50	ug/l	2000		82.0	52-136			
Surrogate: Tetratetracontane	129			"	125		103	20-152			
LCS Dup (AI52810-BSD1)					Prepared &	z Analyzed:	09/28/05				
TPH as Diesel	1800		50	ug/l	2000		90.0	52-136	9.30	25	
Surrogate: Tetratetracontane	145			,,	125		116	20-152			

Alpha Analytical Laboratories, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

1



208 Mason Street, Ukiah, California 95482

%REC

e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

Sacramento CA, 95827-2508

10411 Old Placerville Rd., Suite 210

**ENSR International** 

Project Manager: Margret Riggin

Reporting

Project: Unocal #0813, Ukiah

Project Number: 06940-264-100

Spike

Source

Reported: 10/04/05 09:01

RPD

### Volatile Organic Compounds by EPA Method 8260B - Quality Control Alpha Analytical Laboratories, Inc.

Analyte	Result	MDL Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch AI52803 - EPA 5030 Water	·GCMS									
Blank (AI52803-BLK1)				Prepared: (	09/22/05 A	nalyzed: 09	/23/05			
Benzene	ND	0.30	ug/l							
Toluene	ND	0.30	"							
Ethylbenzene	ND	0.50	"							
Xylenes (total)	ND	0.50	"							
Surrogate: Bromofluorobenzene	25.0		"	25.0		100	78-138			
Surrogate: Dibromofluoromethane	23.3		"	25.0		93.2	71-136			
Surrogate: Toluene-d8	27.5		"	25.0		110	88-139			
LCS (AI52803-BS1)				Prepared: (	09/22/05 A	nalyzed: 09	/24/05			
Benzene	5.53	0.30	ug/l	5.00		111	68-129			
Toluene	5.51	0.30	"	5.00		110	76-137			
Ethylbenzene	5.16	0.50	"	5.00		103	78-136			
Xylenes (total)	15.2	0.50	"	15.0		101	76-134			
Surrogate: Bromofluorobenzene	27.9		"	25.0		112	78-138			
Surrogate: Dibromofluoromethane	27.0		"	25.0		108	71-136			
Surrogate: Toluene-d8	27.7		"	25.0		111	88-139			
LCS Dup (AI52803-BSD1)				Prepared: (	09/22/05 A	nalyzed: 09	/24/05			
Benzene	5.32	0.30	ug/l	5.00		106	68-129	3.87	25	
Γoluene	5.43	0.30	"	5.00		109	76-137	1.46	25	
Ethylbenzene	4.94	0.50	"	5.00		98.8	78-136	4.36	25	
Xylenes (total)	14.8	0.50	"	15.0		98.7	76-134	2.67	25	
Surrogate: Bromofluorobenzene	28.4		"	25.0		114	78-138			
Surrogate: Dibromofluoromethane	26.6		"	25.0		106	71-136			
Surrogate: Toluene-d8	28.1		"	25.0		112	88-139			
Matrix Spike (AI52803-MS1)		Source: A509452-0	2	Prepared: (	09/22/05 A	nalyzed: 09	/24/05			
Benzene	5.64	0.30	ug/l	5.00	ND	113	39-142			
Toluene	5.94	0.30	"	5.00	ND	119	44-148			

Alpha Analytical Laboratories, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Result

5.32

208 Mason Street, Ukiah, California 95482

%REC

Limits

RPD

e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

Sacramento CA, 95827-2508

Analyte

ENSR International

10411 Old Placerville Rd., Suite 210

Project Manager: Margret Riggin

Project: Unocal #0813, Ukiah Project Number: 06940-264-100

Spike

Level

Source

Result

%REC

Reported: 10/04/05 09:01

Notes

RPD

Limit

## Volatile Organic Compounds by EPA Method 8260B - Quality Control Alpha Analytical Laboratories, Inc.

Units

Reporting

Limit

MDL

7 mary to	resurt	IMDE EIII				, orth	23111110	10.2	Limit	110103
Batch AI52803 - EPA 5030 Water	GCMS		_	-	-		-		-	-
Matrix Spike (AI52803-MS1)		Source: A509452-	02	Prepared:	09/22/05 A	nalyzed: 09	9/24/05			
Ethylbenzene	5.46	0.5	0 ug/l	5.00	ND	109	42-148			
Xylenes (total)	16.0	0.5	0 "	15.0	ND	107	43-145			
Surrogate: Bromofluorobenzene	27.7		"	25.0		111	78-138			
Surrogate: Dibromofluoromethane	27.4		"	25.0		110	71-136			
Surrogate: Toluene-d8	27.8		"	25.0		111	88-139			
Batch AI52811 - EPA 5030 Water	GCMS									
Blank (AI52811-BLK1)				Prepared &	& Analyzed	: 09/27/05				
Benzene	ND	0.3	0 ug/l							
Toluene	ND	0.3	0 "							
Ethylbenzene	ND	0.5	0 "							
Xylenes (total)	ND	0.5	0 "							
Surrogate: Bromofluorobenzene	22.9		"	25.0		91.6	78-138			
Surrogate: Dibromofluoromethane	22.2		"	25.0		88.8	71-136			
Surrogate: Toluene-d8	27.0		"	25.0		108	88-139			
LCS (AI52811-BS1)				Prepared &	& Analyzed	: 09/27/05				
Benzene	5.17	0.3	0 ug/l	5.00		103	68-129			
Toluene	5.77	0.3	0 "	5.00		115	76-137			
Ethylbenzene	5.40	0.5	0 "	5.00		108	78-136			
Xylenes (total)	15.9	0.5	0 "	15.0		106	76-134			
Surrogate: Bromofluorobenzene	25.8		"	25.0		103	78-138			
Surrogate: Dibromofluoromethane	23.9		"	25.0		95.6	71-136			
Surrogate: Toluene-d8	28.4		"	25.0		114	88-139			
LCS Dup (AI52811-BSD1)				Prepared &	& Analyzed	: 09/27/05				
Benzene	5.18	0.3	0 ug/l	5.00		104	68-129	0.193	25	
Toluene	5.85	0.3	0 "	5.00		117	76-137	1.38	25	

0.50

5.00

Alpha Analytical Laboratories, Inc.

Ethylbenzene

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

78-136

1.49

25

106

Nena M. Burgess For Sheri L. Speaks, Project Manager



208 Mason Street, Ukiah, California 95482

e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

Sacramento CA, 95827-2508

Project Manager: Margret Riggin

ENSR International

Project: Unocal #0813, Ukiah

Reported: 10/04/05 09:01

10411 Old Placerville Rd., Suite 210

Project Number: 06940-264-100

**Volatile Organic Compounds by EPA Method 8260B - Quality Control** Alpha Analytical Laboratories, Inc.

			Reporting		Spike	Source		%REC		RPD	
Analyte	Result	MDL	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

#### Batch AI52811 - EPA 5030 Water GCMS

Dutem 1110 2011 El 11 0 00 0 11 utel	001.10									
LCS Dup (AI52811-BSD1)				Prepared &	Analyzed:	09/27/05				
Xylenes (total)	16.1	0.50	ug/l	15.0		107	76-134	1.25	25	
Surrogate: Bromofluorobenzene	26.2		"	25.0		105	78-138			
Surrogate: Dibromofluoromethane	24.1		"	25.0		96.4	71-136			
Surrogate: Toluene-d8	28.8		"	25.0		115	88-139			
Matrix Spike (AI52811-MS1)		Source: A509621-01		Prepared &	Analyzed:	: 09/27/05				
Benzene	5.32	0.30	ug/l	5.00	ND	106	39-142			
Toluene	5.81	0.30	"	5.00	ND	116	44-148			
Ethylbenzene	5.43	0.50	"	5.00	ND	109	42-148			
Xylenes (total)	16.2	0.50	"	15.0	ND	108	43-145			
Surrogate: Bromofluorobenzene	26.1		"	25.0		104	78-138			
Surrogate: Dibromofluoromethane	24.0		"	25.0		96.0	71-136			
Surrogate: Toluene-d8	28.0		"	25.0		112	88-139			

Alpha Analytical Laboratories, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



208 Mason Street, Ukiah, California 95482

e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

Sacramento CA, 95827-2508 Project Manager: Margret Riggin

 ENSR International
 Project:
 Unocal #0813, Ukiah
 Reported:

 10411 Old Placerville Rd., Suite 210
 Project Number:
 06940-264-100
 10/04/05 09:01

#### **Notes and Definitions**

U Analyte included in analysis, but not detected at or above MDL.

S-01 The surrogate recovery for this sample is outside of established control limits.

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference

Alpha Analytical Laboratories, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

# BSK ANALYTICAL LABORATORIES

Sheri L. Speaks Alpha Analytical Laboratories Inc 208 Mason Street Ukiah, CA 95482

**BSK Submission #: 2005091545** BSK Sample ID #: 636960

Project ID: A509493 Submission Comments: Project Desc:

Sample Type: Liquid

Sample Description: A509493-01 MW-1

Sample Comments: A509493-01 **Certificate of Analysis NELAP Certificate #04227CA ELAP Certificate #1180** 



Report Issue Date: 10/05/2005

Date Sampled: 09/19/2005 Time Sampled: 1555 Date Received: 09/21/2005

Inorganics								
Analyte	Method	Result	Units	PQL	Dilution	DLR	Prep Date/Time	Analysis Date/Time
Bromate (BrO3) with Ag/Ba Clean Up	EPA 300.1	ND	mg/L	0.005	1	0.005	10/04/05	10/04/05
Bromide (Br)	EPA 300.1	0.083	mg/L	0.005	1	0.005	09/28/05	09/28/05

mg/L: Milligrams/Liter (ppm) mg/Kg: Milligrams/Kilogram (ppm) μg/L: Micrograms/Liter (ppb)

 $\mu g/Kg \colon Micrograms/Kilogram \ (ppb)$ %Rec: Percent Recovered (surrogates)

Matternous

The House of the Control of the Cont

PQL: Practical Quantitation Limit DLR: Detection Limit for Reporting

: PQL x Dilution

ND: None Detected at DLR

gates) pCi/L: Picocurie per Liter \*636960 - 0 0830 \*

H: Analyzed outside of hold time

P: Preliminary result

S: Suspect result. See Case Narrative for comments.

E: Analysis performed by External laboratory.  $See\ External\ Laboratory\ Report\ attachments.$ 

Page 1 of 2

1414 Stanislaus Street Fresno, CA 93706-1623 Phone 559-497-2888, In CA 800-877-8310

Fax 559-485-6935

# BSK ANALYTICAL LABORATORIES

**Certificate of Analysis NELAP Certificate #04227CA ELAP Certificate #1180** 

Sheri L. Speaks Alpha Analytical Laboratories Inc 208 Mason Street Ukiah, CA 95482

BSK Submission #: 2005091545 **BSK Sample ID #: 636961** 

Project ID: A509493

Project Desc:

Submission Comments:

Sample Type:

Liquid

Sample Description: Sample Comments:

A509493-02 MW-2

A509493-02

Report Issue Date: 10/05/2005

Date Sampled: 09/19/2005

Time Sampled: 1645

Date Received: 09/21/2005

Inorganics								
Analyte	Method	Result	Units	PQL	Dilution	DLR	Prep Date/Time	Analysis Date/Time
Bromate (BrO3) with Ag/Ba Clean Up	EPA 300.1	ND	mg/L	0.005	1	0.005	10/04/05	10/04/05
Bromide (Br)	EPA 300.1	0.079	mg/L	0.005	1	0.005	09/28/05	09/28/05

mg/L: Milligrams/Liter (ppm) mg/Kg: Milligrams/Kilogram (ppm) μg/L: Micrograms/Liter (ppb)

μg/Kg: Micrograms/Kilogram (ppb) %Rec: Percent Recovered (surrogates) PQL: Practical Quantitation Limit DLR: Detection Limit for Reporting

: PQL x Dilution

ND: None Detected at DLR

pCi/L: Picocurie per Liter

H: Analyzed outside of hold time

P: Preliminary result

S: Suspect result. See Case Narrative for comments.

E: Analysis performed by External laboratory. See External Laboratory Report attachments.

		B.					7
					٧,		
	1	<b>"</b>	۹,		<u>a '</u>		Č
IN	70	14.	14	TIC	$j_{A'}$	4L	

### **CHAIN OF CUSTODY**

Page <u>1</u> of

NTERNATIONAL																Lab: Alpha Analytical
																TAT: Standard
Report results to: Name Company Mailing Address City, State, Zip Telephone No.	Margret Rig ENSR 10411 Old Sacrament 916-362-71	Placerville o, CA 9582	Road, Suite 7-2508	210	• •							Site ENS Unc	Add SR N cal	dres: No.	S.	122 Leslie St., Ukiah, CA 06940-264-100 813 T0604593441
Fax No.	916-362-81						-	Anal	yse	s Re	que	ste	1			
E-Mail Special instructions and/or s	specific regulat		ents:	No. of	TPHg (8015)	BTEX (8021B)	ТКРН (1664)	Total Lead (6010)	TPHd (8015)	Bromate (300) / Bromide (300.0)	Chromium VI (7199)	Molybdenum / Vanadium (200.7)	Selenium (200.9)	pH (150.1)		Sample Condition/Comments
Sample Identification	Date Sampled	Time Sampled	Media	Conts.	Η-	m	Ė	2	11	ā	0	2	٠,			<u> </u>
		7.0	Media GW	Conts.	X	T	X	λ To	X	<u>а</u> Х	X	X	X	Х		HCI/HNO3
иW-1	Sampled	Sampled 1555	The second secon	10		Х	Х				_			-		•
MW-1 MW-2	Sampled Q/19	Sampled	GW GW	10	X	X	Х	Х	Х	Х	Х	Х	Х	Х		( нсиниоз
иW-1	Sampled Q/19	Sampled 1555	GW	10	Х	X	Х	Х	Х	Х	Х	Х	Х	Х		HCI/HNO3



208 Mason Street, Ukiah, California 95482

e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

05 December 2005

**ENSR International** 

Attn: Margret Riggin

10411 Old Placerville Rd., Suite 210

Sacramento, CA 95827-2508

RE: Unocal #0813, Ukiah

Work Order: A511466

Enclosed are the results of analyses for samples received by the laboratory on 11/16/05 17:35. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Sheri L. Speaks Project Manager



208 Mason Street, Ukiah, California 95482

e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

### CHEMICAL EXAMINATION REPORT

Page 1 of 17

**ENSR International** 

10411 Old Placerville Rd., Suite 210 Sacramento, CA 95827-2508

Attn: Margret Riggin

Order Number

A511466

Report Date: 12/05/05 13:27 Project No:

Project ID:

06940-264-100

Unocal #0813, Ukiah

Receipt Date/Time 11/16/2005 17:35

Client Code **ENSR** 

Client PO/Reference

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1	A511466-01	Water	11/16/05 15:40	11/16/05 17:35
MW-2	A511466-02	Water	11/16/05 14:00	11/16/05 17:35
MW-3	A511466-03	Water	11/16/05 13:35	11/16/05 17:35
MW-4	A511466-04	Water	11/16/05 13:05	11/16/05 17:35
MW-5	A511466-05	Water	11/16/05 15:00	11/16/05 17:35
MW-6	A511466-06	Water	11/16/05 11:35	11/16/05 17:35
MW-7	A511466-07	Water	11/16/05 12:35	11/16/05 17:35
MW-8	A511466-08	Water	11/16/05 12:00	11/16/05 17:35
MW-9	A511466-09	Water	11/16/05 10:55	11/16/05 17:35
QA	A511466-10	Water	11/16/05 00:00	11/16/05 17:35

Sheri Speake



208 Mason Street, Ukiah, California 95482

e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

### CHEMICAL EXAMINATION REPORT

Page 2 of 17

**ENSR International** 10411 Old Placerville Rd., Suite 210

Sacramento, CA 95827-2508 Attn: Margret Riggin

Report Date: 12/05/05 13:27 06940-264-100 Project No:

Unocal #0813, Ukiah Project ID:

Order Number A511466

Receipt Date/Time 11/16/2005 17:35

Client Code **ENSR** 

Client PO/Reference

		Alpha	Analytical	Laboratori	ies, Inc.				
	METHOD	BATCH	PREPARED	ANALYZED	DILUTION	RESULT		PQL	NOTI
MW-1 (A511466-01)			Sample Type	: Water	Sam	pled: 11/16/05 15:4	0		
Metals by EPA 200 Series Methods									
Lead	EPA 200.9	AK52112	11/21/05	11/28/05	1	0.012 mg/l		0.0020	
Metals (Dissolved) by EPA 200 Series Me	ethods								
Molybdenum, dissolved	EPA 200.7	AK52111	11/21/05	11/29/05	1	ND mg/l		0.020	
Selenium, dissolved	EPA 200.9	"	"	12/01/05	"	ND "		0.0050	
Vanadium, dissolved	EPA 200.7	"	"	11/29/05	"	ND "		0.010	
Metals by EPA 6000/7000 Series Methods	s								
Chromium, hexavalent	EPA 7199	AK51615	11/17/05	11/17/05	1	ND mg/l		0.0010	
Conventional Chemistry Parameters by A	APHA/EPA Methods								
рН	EPA 150.1	AK51709	11/17/05	11/17/05	1	6.8 pH Unit	s	1.0	
TPH by EPA/LUFT GC/GCMS Methods	i								
TPH as Diesel	8015DRO	AK53020	11/29/05	12/01/05	1	10000 ug/l		50	
TPH as Gasoline	8260GRO	AK53005	11/29/05	11/30/05	2	360 "		100	
Surrogate: Tetratetracontane	8015DRO	AK53020	11/29/05	12/01/05		41.6%	20-152		
Surrogate: Toluene-d8	8260GRO	AK53005	11/29/05	11/30/05		102 %	79-141		
Volatile Organic Compounds by EPA Mo	ethod 8260B								
Benzene	EPA 8260B	AK52916	11/28/05	11/28/05	1	0.41 ug/l		0.30	
Toluene	"	"	"	"	"	ND "		0.30	
Ethylbenzene	"	"	"	"	"	ND "		0.50	
Xylenes (total)	"	"	"	"	"	ND "		0.50	
Surrogate: Bromofluorobenzene	"	"	"	"		102 %	78-138		
Surrogate: Dibromofluoromethane	"	"	"	"		99.2 %	71-136		
Surrogate: Toluene-d8	"	"	"	"		101 %	88-139		
MW-2 (A511466-02)			Sample Type	: Water	Sam	pled: 11/16/05 14:0	0		
Metals by EPA 200 Series Methods									
Lead	EPA 200.9	AK52112	11/21/05	11/29/05	10	0.17 mg/l		0.020	

 ${\it The results in this report apply to the samples analyzed in accordance with the chain}$ of custody document. This analytical report must be reproduced in its entirety.

Sheri Speaka



208 Mason Street, Ukiah, California 95482

e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

### CHEMICAL EXAMINATION REPORT

Page 3 of 17

**ENSR International** 

10411 Old Placerville Rd., Suite 210 Sacramento, CA 95827-2508

Attn: Margret Riggin

Report Date: 12/05/05 13:27 Project No:

06940-264-100

Unocal #0813, Ukiah Project ID:

Order Number A511466

Receipt Date/Time 11/16/2005 17:35 Client Code **ENSR** 

Client PO/Reference

A311400	11/16/2005 17:35			ENSK					
		Alpha	Analytical	Laboratori	ies, Inc.				
	METHOD	BATCH	PREPARED	ANALYZED	DILUTION	RESULT		PQL	NOTE
<b>1W-2 (A511466-02)</b>			Sample Type	e: Water	Sai	mpled: 11/16/05 14:0	0		
Metals (Dissolved) by EPA 200 Series Me	ethods								
Molybdenum, dissolved	EPA 200.7	AK52111	11/21/05	11/29/05	1	ND mg/l		0.020	
Selenium, dissolved	EPA 200.9	"	"	12/01/05	"	ND "		0.0050	
Vanadium, dissolved	EPA 200.7	"	"	11/29/05	"	ND "		0.010	
Metals by EPA 6000/7000 Series Method	s								
Chromium, hexavalent	EPA 7199	AK51615	11/17/05	11/17/05	1	ND mg/l		0.0010	
Conventional Chemistry Parameters by A	APHA/EPA Methods								
рН	EPA 150.1	AK51709	11/17/05	11/17/05	1	7.2 pH Unit	ts	1.0	
TPH by EPA/LUFT GC/GCMS Methods	i								
TPH as Diesel	8015DRO	AK53020	11/29/05	12/01/05	1	ND ug/l		50	
TPH as Gasoline	8260GRO	AK52825	11/28/05	11/28/05	"	ND "		50	
Surrogate: Tetratetracontane	8015DRO	AK53020	11/29/05	12/01/05		72.8 %	20-152	-	
Surrogate: Toluene-d8	8260GRO	AK52825	11/28/05	11/28/05		104 %	79-141		
Volatile Organic Compounds by EPA Mo	ethod 8260B								
Benzene	EPA 8260B	AK52916	11/28/05	11/28/05	1	ND ug/l		0.30	
Toluene	"	"	"	"	"	ND "		0.30	
Ethylbenzene	"	"	"	"	"	ND "		0.50	
Xylenes (total)	"	"	"	"	"	ND "		0.50	
Surrogate: Bromofluorobenzene	"	"	"	"		98.0 %	78-138		
Surrogate: Dibromofluoromethane	"	"	"	"		105 %	71-136		
Surrogate: Toluene-d8	"	"	"	"		104 %	88-139		
MW-3 (A511466-03)			Sample Type	e: Water	Sar	npled: 11/16/05 13:3	5		
Metals by EPA 200 Series Methods									
Lead	EPA 200.9	AK52112	11/21/05	11/29/05	1	0.0021 mg/l		0.0020	

 ${\it The results in this report apply to the samples analyzed in accordance with the chain}$ of custody document. This analytical report must be reproduced in its entirety.

Speaks



208 Mason Street, Ukiah, California 95482

e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

#### CHEMICAL EXAMINATION REPORT

Page 4 of 17

ENSR International

10411 Old Placerville Rd., Suite 210 Sacramento, CA 95827-2508

Attn: Margret Riggin

Report Date: 12/0 Project No: 069

12/05/05 13:27 06940-264-100

Project No: 00940-204-100
Project ID: Unocal #0813, Ukiah

120 ug/l

ND"

62.3 %

105 %

Order Number A511466

TPH as Diesel

TPH as Gasoline

Surrogate: Tetratetracontane

Surrogate: Toluene-d8

Receipt Date/Time 11/16/2005 17:35

8015DRO

8260GRO

8015DRO

8260GRO

AK53020

AK52825

AK53020

AK52825

11/29/05

11/28/05

11/29/05

11/28/05

12/01/05

11/29/05

12/01/05

11/29/05

Client Code ENSR Client PO/Reference

		11.p	1 miny trem	Laboratori	es, 111c.			
	METHOD	BATCH	PREPARED	ANALYZED	DILUTION	RESULT	PQL	NOTE
AW-3 (A511466-03)			Sample Type	: Water		Sampled: 11/16/05 13:35		
TPH by EPA/LUFT GC/GCMS Methods								
TPH as Diesel	8015DRO	AK53020	11/29/05	12/01/05	1	82 ug/l	50	
TPH as Gasoline	8260GRO	AK52825	11/28/05	11/28/05	"	130 "	50	
Surrogate: Tetratetracontane	8015DRO	AK53020	11/29/05	12/01/05		69.1 %	20-152	
Surrogate: Toluene-d8	8260GRO	AK52825	11/28/05	11/28/05		104 %	79-141	
Volatile Organic Compounds by EPA Met	hod 8260B							
Benzene	EPA 8260B	AK52916	11/28/05	11/28/05	1	ND ug/l	0.30	
Toluene	"	"	"	"	"	ND "	0.30	
Ethylbenzene	"	"	"	"	"	ND "	0.50	
Xylenes (total)	"	"	"	"	"	ND "	0.50	
Surrogate: Bromofluorobenzene	"	"	"	"		103 %	78-138	
Surrogate: Dibromofluoromethane	"	"	"	"		110 %	71-136	
Surrogate: Toluene-d8	"	"	"	"		104 %	88-139	
IW-4 (A511466-04)			Sample Type	: Water		Sampled: 11/16/05 13:05		
Metals by EPA 200 Series Methods								
Lead	EPA 200.9	AK52112	11/21/05	11/29/05	1	0.018 mg/l	0.0020	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Shari

Speake

20-152

79-141

50

50

D-13

Sheri L. Speaks Project Manager

1

12/5/2005



208 Mason Street, Ukiah, California 95482

e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

### CHEMICAL EXAMINATION REPORT

Page 5 of 17

**ENSR International** 

10411 Old Placerville Rd., Suite 210 Sacramento, CA 95827-2508

Attn: Margret Riggin

Report Date: 12/05/05 13:27 06940-264-100 Project No:

Unocal #0813, Ukiah Project ID:

Order Number A511466

Lead

Receipt Date/Time 11/16/2005 17:35

Client Code **ENSR** 

Client PO/Reference

		Alpha	Analytical	Laboratori	es, Inc.			
	METHOD	BATCH	PREPARED	ANALYZED	DILUTION	RESULT	PQL	NOTE
MW-4 (A511466-04)			Sample Type	: Water		Sampled: 11/16/05 13:05		
Volatile Organic Compounds by EPA Met	hod 8260B							
Benzene	EPA 8260B	AK52916	11/28/05	11/29/05	1	ND ug/l	0.30	
Toluene	"	"	"	"	"	ND "	0.30	
Ethylbenzene	"	"	"	"	"	ND "	0.50	
Xylenes (total)	"	"	"	"	"	ND "	0.50	
Surrogate: Bromofluorobenzene	"	"	"	"		100 % 7	8-138	
Surrogate: Dibromofluoromethane	"	"	"	"		105 %	1-136	
Surrogate: Toluene-d8	"	"	"	"		105 %	8-139	
/IW-5 (A511466-05)			Sample Type	: Water		Sampled: 11/16/05 15:00		
Metals by EPA 200 Series Methods								
Lead	EPA 200.9	AK52112	11/21/05	11/28/05	1	ND mg/l	0.0020	
TPH by EPA/LUFT GC/GCMS Methods								
TPH as Diesel	8015DRO	AK53020	11/29/05	12/01/05	1	ND ug/l	50	
TPH as Gasoline	8260GRO	AK52825	11/28/05	11/29/05	"	ND "	50	
Surrogate: Tetratetracontane	8015DRO	AK53020	11/29/05	12/01/05		52.8 % 2	0-152	
Surrogate: Toluene-d8	8260GRO	AK52825	11/28/05	11/29/05		106 %	9-141	
Volatile Organic Compounds by EPA Met	hod 8260B							
Benzene	EPA 8260B	AK52916	11/28/05	11/29/05	1	ND ug/l	0.30	
Toluene	"	"	"	"	"	ND "	0.30	
Ethylbenzene	"	"	"	"	"	ND "	0.50	
Xylenes (total)	"	"	"	"	"	ND "	0.50	
Surrogate: Bromofluorobenzene	"	"	"	"		98.8 % 7	8-138	
Surrogate: Dibromofluoromethane	"	"	"	"		106 %	1-136	
Surrogate: Toluene-d8	"	"	"	"		106 % 8	8-139	
MW-6 (A511466-06)			Sample Type	: Water		Sampled: 11/16/05 11:35		
Metals by EPA 200 Series Methods						•		

11/29/05

 ${\it The results in this report apply to the samples analyzed in accordance with the chain}$ of custody document. This analytical report must be reproduced in its entirety.

EPA 200.9

AK52112

11/21/05

0.0074 mg/l

Speaks

0.0020

1



208 Mason Street, Ukiah, California 95482

e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

### CHEMICAL EXAMINATION REPORT

Page 6 of 17

**ENSR International** 

10411 Old Placerville Rd., Suite 210 Sacramento, CA 95827-2508

Attn: Margret Riggin

Report Date: 12/05/05 13:27

06940-264-100

Project No: Unocal #0813, Ukiah Project ID:

Order Number A511466

Receipt Date/Time 11/16/2005 17:35

Client Code **ENSR** 

Client PO/Reference

Almha	A a l-	.ti.a.a.l	Laborat		Tm a
Alpha	Allaly	ucai	Laborat	ories.	Inc.

		Alpha	Analytical	Laboratori	es, Inc.				
	METHOD	ВАТСН	PREPARED	ANALYZED	DILUTION	RESULT		PQL	NOTE
MW-6 (A511466-06)			Sample Type	: Water	Saı	npled: 11/16/05 11:3	35		
TPH by EPA/LUFT GC/GCMS Methods									
TPH as Diesel	8015DRO	AK53020	11/29/05	12/01/05	1	ND ug/l		50	
TPH as Gasoline	8260GRO	AK52825	11/28/05	11/29/05	"	ND "		50	
Surrogate: Tetratetracontane	8015DRO	AK53020	11/29/05	12/01/05		49.8 %	20-152		
Surrogate: Toluene-d8	8260GRO	AK52825	11/28/05	11/29/05		108 %	79-141		
Volatile Organic Compounds by EPA Met	thod 8260B								
Benzene	EPA 8260B	AK52916	11/28/05	11/29/05	1	ND ug/l		0.30	
Toluene	"	"	"	"	"	ND "		0.30	
Ethylbenzene	"	"	"	"	"	ND "		0.50	
Xylenes (total)	"	"	"	"	"	ND "		0.50	
Surrogate: Bromofluorobenzene	"	"	"	"		99.6 %	78-138		
Surrogate: Dibromofluoromethane	"	"	"	"		109 %	71-136		
Surrogate: Toluene-d8	"	"	"	"		108 %	88-139		
MW-7 (A511466-07)			Sample Type	e: Water	Sai	npled: 11/16/05 12:3	35		
Metals by EPA 200 Series Methods									
Lead	EPA 200.9	AK52112	11/21/05	11/28/05	1	ND mg/l		0.0020	
TPH by EPA/LUFT GC/GCMS Methods									
TPH as Diesel	8015DRO	AK53020	11/29/05	12/02/05	1	ND ug/l		50	
TPH as Gasoline	8260GRO	AK52825	11/28/05	11/29/05	"	ND "		50	
Surrogate: Tetratetracontane	8015DRO	AK53020	11/29/05	12/02/05		49.5 %	20-152		
Surrogate: Toluene-d8	8260GRO	AK52825	11/28/05	11/29/05		107 %	79-141		

 ${\it The results in this report apply to the samples analyzed in accordance with the chain}$ of custody document. This analytical report must be reproduced in its entirety.

Speaks



208 Mason Street, Ukiah, California 95482

e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

### CHEMICAL EXAMINATION REPORT

Page 7 of 17

**ENSR International** 

10411 Old Placerville Rd., Suite 210 Sacramento, CA 95827-2508

Attn: Margret Riggin

Report Date: 12/05/05 13:27 Project No:

06940-264-100 Unocal #0813, Ukiah Project ID:

Order Number A511466

Receipt Date/Time 11/16/2005 17:35 Client Code **ENSR** 

Client PO/Reference

11011100	11/10/2005 17.55			ENSK				
		Alpha	Analytical	Laboratori	ies, Inc.			
	METHOD	ВАТСН	PREPARED	ANALYZED	DILUTION	RESULT	PQL	NOTE
MW-7 (A511466-07)			Sample Type	: Water		Sampled: 11/16/05 12:35		
Volatile Organic Compounds by EPA M	Method 8260B							
Benzene	EPA 8260B	AK52916	11/28/05	11/29/05	1	ND ug/l	0.30	
Toluene	"	"	"	"	"	ND "	0.30	
Ethylbenzene	"	"	"	"	"	ND "	0.50	
Xylenes (total)	"	"	"	"	"	ND "	0.50	
Surrogate: Bromofluorobenzene	"	"	"	"		98.0 % 78	3-138	
Surrogate: Dibromofluoromethane	"	"	"	"		111 % 71	-136	
Surrogate: Toluene-d8	"	"	"	"		107 % 88	3-139	
MW-8 (A511466-08)			Sample Type	e: Water		Sampled: 11/16/05 12:00		
Metals by EPA 200 Series Methods								
Lead	EPA 200.9	AK52112	11/21/05	11/29/05	1	0.011 mg/l	0.0020	
TPH by EPA/LUFT GC/GCMS Metho	ds							
TPH as Diesel	8015DRO	AK53020	11/29/05	12/02/05	1	ND ug/l	50	
TPH as Gasoline	8260GRO	AK52825	11/28/05	11/29/05	"	ND "	50	
Surrogate: Tetratetracontane	8015DRO	AK53020	11/29/05	12/02/05		49.8 % 20	)-152	
Surrogate: Toluene-d8	8260GRO	AK52825	11/28/05	11/29/05			)-141	
_								
Volatile Organic Compounds by EPA M								
Benzene	EPA 8260B	AK52916	11/28/05	11/29/05	1	ND ug/l	0.30	
Toluene	"	"	"	"	"	ND "	0.30	
Ethylbenzene	"	"	"	"	"	ND "	0.50	
Xylenes (total)	"	"	"	"	"	ND "	0.50	
Surrogate: Bromofluorobenzene	"	"	"	"			3-138	
Surrogate: Dibromofluoromethane	"	"	"	"			-136	
Surrogate: Toluene-d8	"	"	"	"		103 % 88	3-139	
MW-9 (A511466-09)			Sample Type	e: Water		Sampled: 11/16/05 10:55		
Metals by EPA 200 Series Methods								
Lead	EPA 200.9	AK52112	11/21/05	11/29/05	1	0.011 mg/l	0.0020	

 ${\it The results in this report apply to the samples analyzed in accordance with the chain}$ of custody document. This analytical report must be reproduced in its entirety.

Speaks



208 Mason Street, Ukiah, California 95482

e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

### CHEMICAL EXAMINATION REPORT

Page 8 of 17

**ENSR International** 

10411 Old Placerville Rd., Suite 210 Sacramento, CA 95827-2508

Attn: Margret Riggin

Report Date: 12

DILUTION

12/05/05 13:27

RESULT

Sampled: 11/16/05 00:00

ND ug/l

Project No: 06940-264-100 Project ID: Unocal #0813, Ukiah

Order Number A511466

QA (A511466-10)

TPH as Gasoline

TPH by EPA/LUFT GC/GCMS Methods

Receipt Date/Time 11/16/2005 17:35

METHOD

8260GRO

AK52825

Client Code ENSR

Alpha Analytical Laboratories, Inc.

BATCH PREPARED ANALYZED

Client PO/Reference

PQL

50

NOTE

W-9 (A511466-09)		\$	Sample Type	e: Water	S	ampled: 11/16/05 10:5	55
PH by EPA/LUFT GC/GCMS Methods							
TPH as Diesel	8015DRO	AK53020	11/29/05	12/02/05	1	ND ug/l	50
TPH as Gasoline	8260GRO	AK52825	11/28/05	11/29/05	"	ND "	50
Surrogate: Tetratetracontane	8015DRO	AK53020	11/29/05	12/02/05		44.4 %	20-152
Surrogate: Toluene-d8	8260GRO	AK52825	11/28/05	11/29/05		105 %	79-141
olatile Organic Compounds by EPA Met	thod 8260B						
Benzene	EPA 8260B	AK52916	11/28/05	11/29/05	1	ND ug/l	0.30
Toluene	"	"	"	"	"	ND "	0.30
Ethylbenzene	"	"	"	"	"	ND "	0.50
Xylenes (total)	"	"	"	"	"	ND"	0.50
Surrogate: Bromofluorobenzene	"	"	"	"		94.8 %	78-138
Surrogate: Dibromofluoromethane	"	"	"	"		114 %	71-136
Surrogate: Toluene-d8	"	"	"	"		105 %	88-139

Surrogate: Toluene-d8	"	"	"	"		105 %	79-141	
Volatile Organic Compounds by EPA Meth	hod 8260B							
Benzene	EPA 8260B	AK52916	11/28/05	11/28/05	1	ND ug/l	0.30	
Toluene	"	"	"	"	"	ND "	0.30	
Ethylbenzene	"	"	"	"	"	ND "	0.50	
Xylenes (total)	"	"	"	"	"	ND "	0.50	
Surrogate: Bromofluorobenzene	"	"	"	"		96.0 %	78-138	
Surrogate: Dibromofluoromethane	"	"	"	"		110 %	71-136	
Surrogate: Toluene-d8	"	"	"	"		105 %	88-139	

11/28/05

Sample Type: Water

11/28/05

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Shari

Speake



208 Mason Street, Ukiah, California 95482

e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

### CHEMICAL EXAMINATION REPORT

Page 9 of 17

**ENSR International** 

10411 Old Placerville Rd., Suite 210 Sacramento, CA 95827-2508

Attn: Margret Riggin

Report Date: 12/05/05 13:27 06940-264-100

Project No: Unocal #0813, Ukiah Project ID:

Client Code

Client PO/Reference

Order Number A511466

Receipt Date/Time 11/16/2005 17:35

**ENSR** 

SourceResult

### Metals by EPA 200 Series Methods - Quality Control

Analyte(s)	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch AK52112 - EPA 200.2 Hot Plate										
Blank (AK52112-BLK1)				Prepared:	11/21/05 A	nalyzed: 11	/28/05			
Lead	ND	0.0020	mg/l							
LCS (AK52112-BS1)				Prepared:	11/21/05 A	nalyzed: 11	/28/05			
Lead	0.105	0.020	mg/l	0.100		105	85-115			
LCS Dup (AK52112-BSD1)				Prepared:	11/21/05 A	nalyzed: 11	/28/05			
Lead	0.104	0.020	mg/l	0.100		104	85-115	0.957	20	
Duplicate (AK52112-DUP1)	Sou	rce: A51146	6-01	Prepared:	11/21/05 A	nalyzed: 11	/28/05			
Lead	0.0124	0.0020	mg/l		0.012			3.28	20	
Matrix Spike (AK52112-MS1)	Sou	rce: A51146	6-01	Prepared:	11/21/05 A	nalyzed: 11	/28/05			
Lead	0.109	0.020	mg/l	0.100	ND	97.0	70-130			
Matrix Spike Dup (AK52112-MSD1)	Sour	rce: A51146	6-01	Prepared:	11/21/05 A	nalyzed: 11	/28/05			
Lead	0.120	0.020	mg/l	0.100	ND	108	70-130	9.61	20	

 ${\it The results in this report apply to the samples analyzed in accordance with the chain}$ of custody document. This analytical report must be reproduced in its entirety.

Speaks



208 Mason Street, Ukiah, California 95482

e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

### CHEMICAL EXAMINATION REPORT

Page 10 of 17

**ENSR International** 10411 Old Placerville Rd., Suite 210

Sacramento, CA 95827-2508

Report Date: 12/05/05 13:27 06940-264-100 Project No: Unocal #0813, Ukiah Project ID:

Attn: Margret Riggin

Order Number

A511466

Receipt Date/Time 11/16/2005 17:35

Client Code **ENSR** 

Client PO/Reference

Metals (Dissolved) by EPA 200 Series Methods - Quality Control

Analyte(s)	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch AK52111 - EPA 200.2 Hot Plate										
Blank (AK52111-BLK1)				Prepared:	11/21/05 A	nalyzed: 11	/29/05			
Molybdenum, dissolved	ND	0.020	mg/l							
Selenium, dissolved	ND	0.0050	"							
Vanadium, dissolved	ND	0.010	"							
LCS (AK52111-BS1)				Prepared: 1	11/21/05 A	nalyzed: 11	/29/05			
Molybdenum, dissolved	0.101	0.020	mg/l	0.100		101	85-115			
Selenium, dissolved	0.00979	0.0050	"	0.0100		97.9	85-115			
Vanadium, dissolved	0.0982	0.010	"	0.100		98.2	85-115			
LCS Dup (AK52111-BSD1)				Prepared:	11/21/05 A	nalyzed: 11	/29/05			
Molybdenum, dissolved	0.101	0.020	mg/l	0.100		101	85-115	0.00	20	
Selenium, dissolved	0.00962	0.0050	"	0.0100		96.2	85-115	1.75	20	
Vanadium, dissolved	0.0984	0.010	"	0.100		98.4	85-115	0.203	20	
Duplicate (AK52111-DUP1)	Sou	rce: A51146	6-01	Prepared: 1	11/21/05 A	nalyzed: 11	/29/05			
Molybdenum, dissolved	ND	0.020	mg/l		ND				20	
Selenium, dissolved	ND	0.0050	"		ND				20	
Vanadium, dissolved	ND	0.010	"		ND				20	
Matrix Spike (AK52111-MS1)	Sou	rce: A51146	6-01	Prepared:	11/21/05 A	nalyzed: 11	/29/05			
Molybdenum, dissolved	0.100	0.020	mg/l	0.100	ND	100	70-130			
Selenium, dissolved	0.00649	0.0050	"	0.0100	ND	64.9	70-130			QM-0
Vanadium, dissolved	0.0944	0.010	"	0.100	ND	94.4	70-130			
Matrix Spike Dup (AK52111-MSD1)	Sou	rce: A51146	6-01	Prepared:	11/21/05 A	nalyzed: 11	/29/05			
Molybdenum, dissolved	0.0985	0.020	mg/l	0.100	ND	98.5	70-130	1.51	20	
Selenium, dissolved	0.00648	0.0050	"	0.0100	ND	64.8	70-130	0.154	20	QM-0
Vanadium, dissolved	0.0945	0.010	"	0.100	ND	94.5	70-130	0.106	20	

 ${\it The results in this report apply to the samples analyzed in accordance with the chain}$ of custody document. This analytical report must be reproduced in its entirety.

Speaks



208 Mason Street, Ukiah, California 95482

e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

### CHEMICAL EXAMINATION REPORT

Page 11 of 17

**ENSR International** 

10411 Old Placerville Rd., Suite 210 Sacramento, CA 95827-2508 Attn: Margret Riggin

Report Date: 12/05/05 13:27 Project No:

06940-264-100

Unocal #0813, Ukiah Project ID:

Order Number A511466

Receipt Date/Time 11/16/2005 17:35

Client Code **ENSR** 

Client PO/Reference

### Metals by EPA 6000/7000 Series Methods - Quality Control

Analyte(s)	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch AK51615 - General Preparation										
Blank (AK51615-BLK1)				Prepared &	Analyzed:	11/17/05				
Chromium, hexavalent	ND	0.0010	mg/l							
LCS (AK51615-BS1)				Prepared &	Analyzed:	11/17/05				
Chromium, hexavalent	0.00416	0.0010	mg/l	0.00400		104	80-120			
LCS Dup (AK51615-BSD1)				Prepared &	Analyzed:	11/17/05				
Chromium, hexavalent	0.00410	0.0010	mg/l	0.00400		102	80-120	1.45	20	
<b>Duplicate (AK51615-DUP1)</b>	Sour	ce: A51146	6-01	Prepared &	Analyzed:	11/17/05				
Chromium, hexavalent	ND	0.0010	mg/l		ND				30	
Matrix Spike (AK51615-MS1)	Sour	ce: A51146	6-01	Prepared &	x Analyzed:	11/17/05				
Chromium, hexavalent	0.00417	0.0010	mg/l	0.00400	ND	104	70-130			
Matrix Spike Dup (AK51615-MSD1)	Sour	ce: A51146	6-01	Prepared &	z Analyzed:	11/17/05				
Chromium, hexavalent	0.00416	0.0010	mg/l	0.00400	ND	104	70-130	0.240	20	

 ${\it The results in this report apply to the samples analyzed in accordance with the chain}$ of custody document. This analytical report must be reproduced in its entirety.

Speaks

Sheri L. Speaks Project Manager

12/5/2005



208 Mason Street, Ukiah, California 95482

e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

### CHEMICAL EXAMINATION REPORT

Page 12 of 17

**ENSR International** 

10411 Old Placerville Rd., Suite 210 Sacramento, CA 95827-2508

Attn: Margret Riggin

Report Date: 12/05/05 13:27

06940-264-100

Project No: Unocal #0813, Ukiah Project ID:

Order Number A511466

Receipt Date/Time 11/16/2005 17:35

Client Code **ENSR** 

Client PO/Reference

Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control

Spike Source %REC RPD Result %REC Limits Analyte(s) Result **PQL** Units Level RPD Limit Flag **Batch AK51709 - General Preparation** 

**Duplicate (AK51709-DUP1)** Source: A511467-01 Prepared & Analyzed: 11/17/05

7.83 1.0 pH Units 7.9 0.890 pН 20

 ${\it The results in this report apply to the samples analyzed in accordance with the chain}$ of custody document. This analytical report must be reproduced in its entirety.

Speaks

Sheri L. Speaks Project Manager

12/5/2005



208 Mason Street, Ukiah, California 95482

e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

#### CHEMICAL EXAMINATION REPORT

Page 13 of 17

**ENSR International** 10411 Old Placerville Rd., Suite 210 Sacramento, CA 95827-2508 Attn: Margret Riggin

Project No:

Unocal #0813, Ukiah Project ID:

06940-264-100

Report Date: 12/05/05 13:27

Order Number A511466

Receipt Date/Time 11/16/2005 17:35

Client Code **ENSR** 

Client PO/Reference

### TPH by EPA/LUFT GC/GCMS Methods - Quality Control

Analyte(s)	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch AK52825 - VOAs in Water GCMS										
Blank (AK52825-BLK1)				Prepared &	k Analyzed	: 11/28/05				
TPH as Gasoline	ND	50	ug/l							
Surrogate: Toluene-d8	28.6		"	25.0		114	79-141			
LCS (AK52825-BS1)				Prepared &	k Analyzed	: 11/28/05				
TPH as Gasoline	161	50	ug/l	200		80.5	75-126			
Surrogate: Toluene-d8	29.0		"	25.0		116	79-141			
LCS Dup (AK52825-BSD1)				Prepared &	k Analyzed	: 11/28/05				
TPH as Gasoline	165	50	ug/l	200		82.5	75-126	2.45	20	
Surrogate: Toluene-d8	28.3		"	25.0		113	79-141			
Matrix Spike (AK52825-MS1)	Sour	ce: A51146	6-02	Prepared &	k Analyzed	: 11/28/05				
TPH as Gasoline	156	50	ug/l	200	ND	70.0	32-166			
Surrogate: Toluene-d8	28.8		"	25.0		115	79-141			
Batch AK53005 - VOAs in Water GCMS										
Blank (AK53005-BLK1)				Prepared &	k Analyzed	: 11/29/05				
TPH as Gasoline	ND	50	ug/l							
Surrogate: Toluene-d8	26.8		"	25.0		107	79-141			
LCS (AK53005-BS1)				Prepared &	k Analyzed	: 11/29/05				
TPH as Gasoline	187	50	ug/l	200		93.5	75-126			
Surrogate: Toluene-d8	29.1		"	25.0		116	79-141			
LCS Dup (AK53005-BSD1)				Prepared &	k Analyzed	: 11/29/05				
TPH as Gasoline	173	50	ug/l	200		86.5	75-126	7.78	20	
Surrogate: Toluene-d8	29.1		"	25.0		116	79-141			

 ${\it The results in this report apply to the samples analyzed in accordance with the chain}$ of custody document. This analytical report must be reproduced in its entirety.

Speaks



208 Mason Street, Ukiah, California 95482

e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

### CHEMICAL EXAMINATION REPORT

Page 14 of 17

**ENSR International** 10411 Old Placerville Rd., Suite 210

Sacramento, CA 95827-2508

Report Date: 12/05/05 13:27 Project No:

Project ID:

06940-264-100 Unocal #0813, Ukiah

Attn: Margret Riggin

Client Code

Client PO/Reference

Order Number A511466

Receipt Date/Time 11/16/2005 17:35

**ENSR** 

TPH by EPA/LUFT GC/GCMS Methods - Quality Control

Analyte(s)	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch AK53005 - VOAs in Water GCMS										
Matrix Spike (AK53005-MS1)	Sour	ce: A51150	2-04	Prepared &	Analyzed:	11/29/05				
TPH as Gasoline	174	50	ug/l	200	ND	78.5	32-166			
Surrogate: Toluene-d8	29.2		"	25.0		117	79-141			
Batch AK53020 - EPA 3510B Water										
Blank (AK53020-BLK1)				Prepared: 1	11/29/05 A	nalyzed: 12	2/01/05			
TPH as Diesel	ND	50	ug/l							
Surrogate: Tetratetracontane	52.4		"	162		32.3	20-152			
LCS (AK53020-BS1)				Prepared:	11/29/05 A	nalyzed: 12	2/01/05			
TPH as Diesel	1970	50	ug/l	2000		98.5	52-136			
Surrogate: Tetratetracontane	93.0		"	162		57.4	20-152			
LCS Dup (AK53020-BSD1)				Prepared:	11/29/05 A	nalyzed: 12	2/01/05			
TPH as Diesel	1730	50	ug/l	2000		86.5	52-136	13.0	25	
Surrogate: Tetratetracontane	76.4		"	162		47.2	20-152			





208 Mason Street, Ukiah, California 95482

e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

#### CHEMICAL EXAMINATION REPORT

Page 15 of 17

**ENSR International** 10411 Old Placerville Rd., Suite 210

Sacramento, CA 95827-2508 Attn: Margret Riggin

Report Date: 12/05/05 13:27 Project No:

06940-264-100

Project ID:

Unocal #0813, Ukiah

Order Number A511466

Receipt Date/Time 11/16/2005 17:35

Client Code **ENSR** 

Client PO/Reference

#### Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte(s)	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch AK52916 - VOAs in Water GCMS		- (-	-							
Blank (AK52916-BLK1)				Prepared &	k Analyzed:	11/28/05				
Benzene	ND	0.30	ug/l							
Toluene	ND	0.30	"							
Ethylbenzene	ND	0.50	"							
Xylenes (total)	ND	0.50	"							
Surrogate: Bromofluorobenzene	26.6		"	25.0		106	78-138			
Surrogate: Dibromofluoromethane	26.2		"	25.0		105	71-136			
Surrogate: Toluene-d8	28.6		"	25.0		114	88-139			
LCS (AK52916-BS1)				Prepared &	k Analyzed:	11/28/05				
Benzene	5.44	0.30	ug/l	5.00		109	68-129			
Toluene	5.38	0.30	"	5.00		108	76-137			
Ethylbenzene	5.17	0.50	"	5.00		103	78-136			
Xylenes (total)	15.9	0.50	"	15.0		106	76-134			
Surrogate: Bromofluorobenzene	25.7		"	25.0		103	78-138			
Surrogate: Dibromofluoromethane	24.8		"	25.0		99.2	71-136			
Surrogate: Toluene-d8	26.3		"	25.0		105	88-139			
LCS Dup (AK52916-BSD1)				Prepared &	ት Analyzed:	11/28/05				
Benzene	5.22	0.30	ug/l	5.00		104	68-129	4.13	25	
Toluene	5.23	0.30	"	5.00		105	76-137	2.83	25	
Ethylbenzene	5.12	0.50	"	5.00		102	78-136	0.972	25	
Xylenes (total)	15.4	0.50	"	15.0		103	76-134	3.19	25	
Surrogate: Bromofluorobenzene	26.6		"	25.0		106	78-138			
Surrogate: Dibromofluoromethane	25.0		"	25.0		100	71-136			
Surrogate: Toluene-d8	26.6		"	25.0		106	88-139			

 ${\it The results in this report apply to the samples analyzed in accordance with the chain}$ of custody document. This analytical report must be reproduced in its entirety.

Sheri Speake



208 Mason Street, Ukiah, California 95482

e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

#### CHEMICAL EXAMINATION REPORT

Page 16 of 17

**ENSR International** 

10411 Old Placerville Rd., Suite 210 Sacramento, CA 95827-2508

Attn: Margret Riggin

Report Date: 12/05/05 13:27

06940-264-100

Project No: Unocal #0813, Ukiah Project ID:

Order Number A511466

Receipt Date/Time 11/16/2005 17:35

Client Code **ENSR** 

Client PO/Reference

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte(s)	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch AK52916 - VOAs in Water GCMS  Matrix Spike (AK52916-MS1)	Sourc	e: A51146	6-01	Prepared &	ά Analyzed:	11/28/05				
Benzene	5.84	0.30	ug/l	5.00	0.41	109	39-142			
Toluene	5.24	0.30	"	5.00	ND	105	44-148			
Ethylbenzene	5.59	0.50	"	5.00	ND	112	42-148			
Xylenes (total)	16.1	0.50	"	15.0	ND	107	43-145			
Surrogate: Bromofluorobenzene	26.7		"	25.0		107	78-138			
Surrogate: Dibromofluoromethane	25.1		"	25.0		100	71-136			
Surrogate: Toluene-d8	25.3		"	25.0		101	88-139			

 ${\it The results in this report apply to the samples analyzed in accordance with the chain}$ of custody document. This analytical report must be reproduced in its entirety.

Sheri Speake



208 Mason Street, Ukiah, California 95482

e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

#### CHEMICAL EXAMINATION REPORT

Page 17 of 17

**ENSR International** 

10411 Old Placerville Rd., Suite 210 Sacramento, CA 95827-2508

Attn: Margret Riggin

Report Date: 12/05/05 13:27 06940-264-100 Project No:

Unocal #0813, Ukiah Project ID:

Order Number Receipt Date/Time

11/16/2005 17:35

Client Code **ENSR** 

Client PO/Reference

**Notes and Definitions** 

A511466

QM-01 The spike recovery for this QC sample is outside of established control limits possibly due to a sample matrix

interference.

D-13 The sample chromatogram contains resolved peaks within the diesel range that do not resemble diesel.

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

Sample results reported on a dry weight basis dry

RPD Relative Percent Difference

PQL Practical Quantitation Limit

ENCR	
	_
INTERNATIONAL	

# PER ONLI B.

## CHAIN OF CUSTODY

		Page1_	of
Lab:	Alpha Analytical		

ICK PA	101 L	$\mathcal{N}\mathcal{M}$	•			
DHD THAD	not	1664	DU	e 40	lack	06
Proper	Con-	tainer	5	11016	65 <sub>se</sub>	

~ A T.	Chandand	

	. ,0,00	•		-> 1	40	10	$\langle \mathcal{O} \rangle$	>								TAT. Standard		
					_	4/		ઠ	5	•						•		
Report results to:												_	_					
Name	Margret Ric	ggin			_								-			ation		
Company	ENSR				Site Address:										<b>S</b> :	122 Leslie Street, Ukiah		
Mailing Address			Road, Suite	210	ENSR No.							06940-264-100						
City, State, Zip	Sacrament		27-2508		_								cal			813		
Telephone No.	916-362-7100								•					D No	0.	T0604593441		
ax No.	916-362-81				igspace	r		nal	yse		que							
E-Mail	mriggin@	ensr.com			┨					0.0		.7						
										(300.0)		Chromium VI (7199) Molybdenum / Vanadium (200.7)						
					- ∫							E						
Special instructions and/o	r specific regulat	tory requireme	ents:							Bromide		diu						
					1					3ro	66	มาล						
					[ '			310		_	(7199)	ゔ	0.9			A511466		
					2	18	<u>8</u>	9	(2)	(300)	>	Ę	(200.9)	_		1011760	0	
					(8015)	(8021B)	TRPH (1664)	Lead (6010)	TPHd (8015)		Chromium	en	Ē	pH (150.1)			Preservative	
		7.2	Matrix/	No. of	) <u>6</u>	$ \times $	Ţ		) pi	nat	Ē	<u>B</u>	]   j	12(		Sample Condition/Comments	) è	
Sample Identification	Date Sampled	Time Sampled	Media	Conts	ТРНд	ВТЕХ	윤	Total I	卢	Bromate	美	<b> </b> €	Selenium	핗			) Š	
				1	1					-		X	X	Х		1	HCI/HNO3	
WW-1	1/16/65	1546	GW	10	X	Х	Х	Х	X		1						<u> </u>	
MW-2	W16/05	1400	GW	10	X	Х	Х	Χ	Х	X	Х	X	X	Х				
MW-3	4/1/05	1335	GW	6	X	Х	Х	Х	Χ_	<u> </u>	ļ		<u> </u>				3 нсиниоз	
WW-4	W/65	1305	GW	6	X	Х	Х	Χ	X								1	
MW-5	11/6/65	1500	GW	6	X	Х	Х	Χ	Х								5 нсиниоз	
VIW-6	10Abbs	1135	GW	6	X	Х	Х	Χ	Х								P HCI/HNO3	
MW-7	11/16/65	1225	GW	6	X	Х	Х	Χ	Х							1	HCI/HNO3	
MW-8	W16/00	1200	GW	6	Х	Х	Х	Х	Х							8	HCI/HNO3	
NW-9	11/16/05	1055	GW	6	Х	Х	Х	Х	X								HCI/HNO3	
AÇ	1/16/6<		Liquid	2	Х	Х										l l	) Ice	
	100																,	
Collected by:	Troop T	PERUT VIOL	(Tete/Time	4/14	6/0		no	Col	llect	or's	Sig	nati	īre:	<b>S</b>	F	Date/Time _IV	16/05,1	
Relinquished by:	de		Date/Time	- 1	V 1	72-	7		ceiv			`		X	1	20 Specillo Date/Time 11/		
Relinquished by:	7		– Date/Time	7.4	71	<del>/ /-</del>	•	Received by:					`			Date/Time		
Method of Shipmer	)t·						•	Sar	nple	e Co	ndit	ion	on l	 Rcpt				
nculou or ompilier							-											

BSK Submission Number: 2005111425

12/02/2005

Sheri L. Speaks Alpha Analytical Laboratories Inc 208 Mason Street Ukiah, CA 95482



Dear Sheri L. Speaks,

Thank you for selecting BSK Analytical Laboratories for your analytical testing needs. We have prepared this report in response to your request for analytical services. Please find enclosed the following sections for your complete laboratory report, each uniquely paginated:

CASE NARRATIVE: An overview of the work performed.
CERTIFICATE OF ANALYSIS: Analytical results.
REPORT OF SAMPLE INTEGRITY
CHAIN OF CUSTODY FORM

Certification: I certify that this data package is in compliance with NELAC Standards for applicable analyses under NELAP Certificate #04227CA, and is in compliance with ELAP Standards for applicable certified analyses under ELAP Certificate #1180, except for the conditions listed.

If additional clarification of any information is required, please contact your Client Services Representative, Matthew Carter, at (800) 877-8310 or (559) 497-2888.

**BSK ANALYTICAL LABORATORIES** 

Matthew Carter

Client Services Representative

Mutther Cuttle

1414 Stanislaus Street • Fresno, CA 93706-1623 • Phone 559-497-2888, In CA 800-877-8310 • Fax 559-485-6935

BSK Submission Number: 2005111425

## SAMPLE AND RECEIPT INFORMATION

The sample(s) was received, prepared, and analyzed within the method specified holding times unless otherwise noted on the Certificate of Analysis. Samples, when shipped, arrived within acceptable temperature requirements of 0° to 6° Celsius unless otherwise noted on the Report of Sample Integrity. Samples collected by BSK Analytical Laboratories were collected in accordance with the BSK Sampling and Collection Standard Operating Procedures.

## **OUALITY CONTROL**

All analytical quality controls are within established method criteria except when noted in the Quality Control section or on the Certificate of Analysis. All positive results for EPA Methods 504.1, 502.2, and 524.2 require the analysis of a Field Reagent Blank (FRB) to confirm that the results are not a contamination error from field sampling steps. If Field Reagent Blanks were not submitted with the samples, this method requirement has not been performed. OC samples may include analytes not requested in this submission.

<u>RUN</u> <u>ORDER</u> <u>TEST</u> 103726 664352 EPA 300.1

ANALYTE
Bromate (BrO3) with

COMMENT

MS recovery was affected by the matrix.

Ag/Ba Clean Up

### SAMPLE RESULT INFORMATION

Samples are analyzed as received (wet weight basis) unless noted here. The results relate only to the items tested. Any exceptions to be considered when evaluating these results are also listed here, if applicable. Results contained in this package shall not be reproduced, except in full, without written approval of BSK Analytical Laboratories.

ORDER TEST

**ANALYTE** 

**COMMENT** 



Sheri L. Speaks Alpha Analytical Laboratories Inc 208 Mason Street Ukiah, CA 95482

**BSK Submission #: 2005111425** 

**BSK Sample ID #: 660765** Project ID: A511466

Project Desc:

Submission Comments: Geo I.D. T0604593441

Sample Type: Liquid

Sample Description: A511466-01 MW-1

Sample Comments:

Date Sampled: 11/16/2005 Time Sampled: 1540 Date Received: 11/18/2005

Report Issue Date: 12/02/2005

Certificate of Analysis NELAP Certificate #04227CA

**ELAP Certificate #1180** 

Date Sampled: 11/16

Inorganics						Prep	Analysis
Analyte	Method	Result	Units	PQL Dilution	DLR	Date/Time	Date/Ťime
Bromate (BrO3) with Ag/Ba Clean	EPA 300.1	ND	mg/L	0.005 1	0.005	11/21/05	11/21/05
Up Bromide (Br)	EPA 300.1	0.072	mg/L	0.005 1	0.005	11/22/05	11/22/05

mg/L: Milligrams/Liter (ppm) mg/Kg: Milligrams/Kilogram (ppm) µg/L: Micrograms/Liter (ppb)

μg/Kg: Micrograms/Kilogram (ppb) %Rec: Percent Recovered (surrogates)

Report Authentication Code:

PQL: Practical Quantitation Limit DLR: Detection Limit for Reporting

: PQL x Dilution

ND: None Detected at DLR

pCi/L: Picocurie per Liter

H: Analyzed outside of hold time

P: Preliminary result

S: Suspect result. See Case Narrative for comments.

E: Analysis performed by External laboratory. See External Laboratory Report attachments.

Page 1 of 2

1414 Stanislaus Street Fresno, CA 93706-1623

Phone 559-497-2888, In CA 800-877-8310

Fax 559-485-6935

Sheri L. Speaks Alpha Analytical Laboratories Inc 208 Mason Street Ukiah, CA 95482

BSK Submission #: 2005111425 BSK Sample ID #: 660766

Project ID: A511466

Project Desc:

Submission Comments: Geo I.D. T0604593441

Sample Type:

Liquid

Sample Description: A511466-02 MW-2

Sample Comments:

Certificate of Analysis NELAP Certificate #04227CA ELAP Certificate #1180



Report Issue Date: 12/02/2005

Date Sampled: 11/16/2005

Time Sampled: 1400
Date Received: 11/18/2005

Inorganics							
Analyte	Method	Result	Units	PQL Dilution	n DLR	Prep Date/Time	Analysis Date/Time
Bromate (BrO3) with Ag/Ba Clean Up	EPA 300.1	ND	mg/L	0.005 1	0.005	11/30/05	11/30/05
Bromide (Br)	EPA 300.1	0.069	mg/L	0.005 1	0.005	11/22/05	11/22/05

mg/L: Milligrams/Liter (ppm) mg/Kg: Milligrams/Kilogram (ppm) µg/L: Micrograms/Liter (ppb)

μg/Kg: Micrograms/Kilogram (ppb) %Rec: Percent Recovered (surrogates) PQL: Practical Quantitation Limit

DLR: Detection Limit for Reporting : PQL x Dilution

ND: None Detected at DLR pCi/L: Picocurie per Liter

H: Analyzed outside of hold time

P: Preliminary result

S: Suspect result. See Case Narrative for comments.

E: Analysis performed by External laboratory. See External Laboratory Report attachments.

Report Authentication Code:

Page 2 of 2

BSK Submission Number: 2005111425

12/02/2005

Sheri L. Speaks Alpha Analytical Laboratories Inc 208 Mason Street Ukiah, CA 95482



Dear Sheri L. Speaks,

Thank you for selecting BSK Analytical Laboratories for your analytical testing needs. We have prepared this report in response to your request for analytical services. Please find enclosed the following sections for your complete laboratory report, each uniquely paginated:

CASE NARRATIVE: An overview of the work performed.
CERTIFICATE OF ANALYSIS: Analytical results.
REPORT OF SAMPLE INTEGRITY
CHAIN OF CUSTODY FORM

Certification: I certify that this data package is in compliance with NELAC Standards for applicable analyses under NELAP Certificate #04227CA, and is in compliance with ELAP Standards for applicable certified analyses under ELAP Certificate #1180, except for the conditions listed.

If additional clarification of any information is required, please contact your Client Services Representative, Matthew Carter, at (800) 877-8310 or (559) 497-2888.

**BSK ANALYTICAL LABORATORIES** 

Matthew Carter

Client Services Representative

Mutther Cuttle

1414 Stanislaus Street • Fresno, CA 93706-1623 • Phone 559-497-2888, In CA 800-877-8310 • Fax 559-485-6935

BSK Submission Number: 2005111425

## SAMPLE AND RECEIPT INFORMATION

The sample(s) was received, prepared, and analyzed within the method specified holding times unless otherwise noted on the Certificate of Analysis. Samples, when shipped, arrived within acceptable temperature requirements of 0° to 6° Celsius unless otherwise noted on the Report of Sample Integrity. Samples collected by BSK Analytical Laboratories were collected in accordance with the BSK Sampling and Collection Standard Operating Procedures.

## **OUALITY CONTROL**

All analytical quality controls are within established method criteria except when noted in the Quality Control section or on the Certificate of Analysis. All positive results for EPA Methods 504.1, 502.2, and 524.2 require the analysis of a Field Reagent Blank (FRB) to confirm that the results are not a contamination error from field sampling steps. If Field Reagent Blanks were not submitted with the samples, this method requirement has not been performed. OC samples may include analytes not requested in this submission.

<u>RUN</u> <u>ORDER</u> <u>TEST</u> 103726 664352 EPA 300.1

ANALYTE
Bromate (BrO3) with

COMMENT

MS recovery was affected by the matrix.

Ag/Ba Clean Up

### SAMPLE RESULT INFORMATION

Samples are analyzed as received (wet weight basis) unless noted here. The results relate only to the items tested. Any exceptions to be considered when evaluating these results are also listed here, if applicable. Results contained in this package shall not be reproduced, except in full, without written approval of BSK Analytical Laboratories.

ORDER TEST

**ANALYTE** 

**COMMENT** 



Sheri L. Speaks Alpha Analytical Laboratories Inc 208 Mason Street Ukiah, CA 95482

**BSK Submission #: 2005111425** 

**BSK Sample ID #: 660765** Project ID: A511466

Project Desc:

Submission Comments: Geo I.D. T0604593441

Sample Type: Liquid

Sample Description: A511466-01 MW-1

Sample Comments:

Date Sampled: 11/16/2005 Time Sampled: 1540 Date Received: 11/18/2005

Report Issue Date: 12/02/2005

Certificate of Analysis NELAP Certificate #04227CA

**ELAP Certificate #1180** 

Date Sampled: 11/16

Inorganics						Prep	Analysis
Analyte	Method	Result	Units	PQL Dilution	DLR	Date/Time	Date/Ťime
Bromate (BrO3) with Ag/Ba Clean	EPA 300.1	ND	mg/L	0.005 1	0.005	11/21/05	11/21/05
Up Bromide (Br)	EPA 300.1	0.072	mg/L	0.005 1	0.005	11/22/05	11/22/05

mg/L: Milligrams/Liter (ppm) mg/Kg: Milligrams/Kilogram (ppm) µg/L: Micrograms/Liter (ppb)

μg/Kg: Micrograms/Kilogram (ppb) %Rec: Percent Recovered (surrogates)

Report Authentication Code:

PQL: Practical Quantitation Limit DLR: Detection Limit for Reporting

: PQL x Dilution

ND: None Detected at DLR

pCi/L: Picocurie per Liter

H: Analyzed outside of hold time

P: Preliminary result

S: Suspect result. See Case Narrative for comments.

E: Analysis performed by External laboratory. See External Laboratory Report attachments.

Page 1 of 2

1414 Stanislaus Street Fresno, CA 93706-1623

Phone 559-497-2888, In CA 800-877-8310

Fax 559-485-6935

Sheri L. Speaks Alpha Analytical Laboratories Inc 208 Mason Street Ukiah, CA 95482

BSK Submission #: 2005111425 BSK Sample ID #: 660766

Project ID: A511466

Project Desc:

Submission Comments: Geo I.D. T0604593441

Sample Type:

Liquid

Sample Description: A511466-02 MW-2

Sample Comments:

Certificate of Analysis NELAP Certificate #04227CA ELAP Certificate #1180



Report Issue Date: 12/02/2005

Date Sampled: 11/16/2005

Time Sampled: 1400
Date Received: 11/18/2005

Inorganics							
Analyte	Method	Result	Units	PQL Dilution	n DLR	Prep Date/Time	Analysis Date/Time
Bromate (BrO3) with Ag/Ba Clean Up	EPA 300.1	ND	mg/L	0.005 1	0.005	11/30/05	11/30/05
Bromide (Br)	EPA 300.1	0.069	mg/L	0.005 1	0.005	11/22/05	11/22/05

mg/L: Milligrams/Liter (ppm) mg/Kg: Milligrams/Kilogram (ppm) µg/L: Micrograms/Liter (ppb)

μg/Kg: Micrograms/Kilogram (ppb) %Rec: Percent Recovered (surrogates) PQL: Practical Quantitation Limit

DLR: Detection Limit for Reporting : PQL x Dilution

ND: None Detected at DLR pCi/L: Picocurie per Liter

H: Analyzed outside of hold time

P: Preliminary result

S: Suspect result. See Case Narrative for comments.

E: Analysis performed by External laboratory. See External Laboratory Report attachments.

Report Authentication Code:

Page 2 of 2



208 Mason Street, Ukiah, California 95482

e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

02 November 2005

**ENSR International** 

Attn: Paul Wadding

10411 Old Placerville Rd., Suite 210

Sacramento, CA 95827-2508

RE: Unocal #0813, Ukiah

Work Order: A510440

Enclosed are the results of analyses for samples received by the laboratory on 10/18/05 16:10. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Sheri L. Speaks Project Manager



208 Mason Street, Ukiah, California 95482

e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

#### CHEMICAL EXAMINATION REPORT

Page 1 of 13

**ENSR International** 

10411 Old Placerville Rd., Suite 210 Sacramento, CA 95827-2508

Attn: Paul Wadding

Report Date: 11/02/05 13:05

06940-264-130/813 Project No: Unocal #0813, Ukiah Project ID:

Order Number A510440

Receipt Date/Time 10/18/2005 16:10

Client Code **ENSR** 

Client PO/Reference

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1	A510440-01	Water	10/18/05 14:00	10/18/05 16:10
MW-2	A510440-02	Water	10/18/05 12:45	10/18/05 16:10
QA	A510440-03	Water	10/18/05 12:45	10/18/05 16:10



208 Mason Street, Ukiah, California 95482

e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

#### CHEMICAL EXAMINATION REPORT

Page 2 of 13

**ENSR International** 

10411 Old Placerville Rd., Suite 210 Sacramento, CA 95827-2508

Attn: Paul Wadding

Report Date: 11/02/05 13:05

11/02/05 13:05 06940-264-130/813

Project No: 069
Project ID: Une

Unocal #0813, Ukiah

Order Number A510440 Receipt Date/Time 10/18/2005 16:10 Client Code ENSR Client PO/Reference

Alnha	Analytical	Lahora	tories, Inc.
AIDHa	Anaivuca	Labora	tories, ilic.

		Аірпа	Anarytical	Laboratori	ies, inc.			
	METHOD	BATCH	PREPARED	ANALYZED	DILUTION	RESULT	PQL	NOTE
IW-1 (A510440-01)			Sample Type	e: Water	Sar	mpled: 10/18/05 14:00	)	
Metals by EPA 200 Series Methods								
Lead	EPA 200.9	AJ52513	10/25/05	10/27/05	1	ND mg/l	0.0020	
Metals (Dissolved) by EPA 200 Series Met	thods							
Molybdenum, dissolved	EPA 200.7	AJ52401	10/24/05	10/28/05	1	ND mg/l	0.020	
Selenium, dissolved	EPA 200.9	"	"	10/26/05	"	ND "	0.0050	
Vanadium, dissolved	EPA 200.7	"	"	10/28/05	"	ND "	0.010	
Metals by EPA 6000/7000 Series Methods								
Chromium, hexavalent	EPA 7199	AJ51907	10/19/05	10/19/05	1	ND mg/l	0.0010	
Conventional Chemistry Parameters by A	APHA/EPA Methods							
Oil & Grease (HEM-SG)	EPA 1664	AJ52610	10/26/05	10/28/05	1	ND mg/l	5.0	
pH	EPA 150.1	AJ51922	10/19/05	10/19/05	"	7.1 pH Units	1.0	
TPH by EPA/LUFT GC/GCMS Methods								
TPH as Diesel	8015DRO	AJ52816	10/28/05	11/01/05	0.9302	8000 ug/l	47	
TPH as Gasoline	8260GRO	AJ52604	10/25/05	10/26/05	5	2100 "	250	
Surrogate: Tetratetracontane	8015DRO	AJ52816	10/28/05	11/01/05		37.0 %	20-152	
Surrogate: Toluene-d8	8260GRO	AJ52604	10/25/05	10/26/05		106 %	86-141	
Volatile Organic Compounds by EPA Me	thod 8260B							
Benzene	EPA 8260B	AJ52613	"	10/26/05	1	0.45 ug/l	0.30	
Toluene	"	"	"	"	"	ND "	0.30	
Ethylbenzene	"	"	"	"	"	ND "	0.50	
Xylenes (total)	"	"	"	"	"	ND "	0.50	
Surrogate: Bromofluorobenzene	"	"	"	"		118 %	78-138	
Surrogate: Dibromofluoromethane	"	"	"	"		79.6 %	71-136	
Surrogate: Toluene-d8	"	"	"	"		107 %	88-139	

MW-2 (A510440-02) Sample Type: Water Sampled: 10/18/05 12:45

Metals by EPA 200 Series Methods

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Shari

Speaker

Sheri L. Speaks Project Manager 11/2/2005



208 Mason Street, Ukiah, California 95482

e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

#### CHEMICAL EXAMINATION REPORT

Page 3 of 13

**ENSR International** 

10411 Old Placerville Rd., Suite 210 Sacramento, CA 95827-2508

Attn: Paul Wadding

Report Date: 11/02/05 13:05

06940-264-130/813 Project No: Unocal #0813, Ukiah Project ID:

Order Number A510440

Receipt Date/Time 10/18/2005 16:10 Client Code **ENSR** 

Client PO/Reference

Alpha Analytical Laboratories, Inc.	

		Aipiia	Anaiyucai	Laboratori	es, Inc.			
	METHOD	ВАТСН	PREPARED	ANALYZED	DILUTION	RESULT	PQL	NOTE
/W-2 (A510440-02)			Sample Type	: Water	Sai	mpled: 10/18/05 12:4:	5	
Metals by EPA 200 Series Methods (cont'd)								
Lead	EPA 200.9	AJ52513	10/25/05	10/27/05	1	ND mg/l	0.0020	
Metals (Dissolved) by EPA 200 Series Method	ls							
Molybdenum, dissolved	EPA 200.7	AJ52401	10/24/05	10/28/05	1	ND mg/l	0.020	
Selenium, dissolved	EPA 200.9	"	"	10/26/05	"	ND "	0.0050	
Vanadium, dissolved	EPA 200.7	"	"	10/28/05	"	ND "	0.010	
Metals by EPA 6000/7000 Series Methods								
Chromium, hexavalent	EPA 7199	AJ51907	10/19/05	10/19/05	1	ND mg/l	0.0010	
Conventional Chemistry Parameters by APH	A/EPA Methods							
Oil & Grease (HEM-SG)	EPA 1664	AJ52610	10/26/05	10/28/05	1	ND mg/l	5.0	
рН	EPA 150.1	AJ51922	10/19/05	10/19/05	"	7.3 pH Units	1.0	
TPH by EPA/LUFT GC/GCMS Methods								
TPH as Diesel	8015DRO	AJ52816	10/28/05	11/01/05	1	ND ug/l	50	
TPH as Gasoline	8260GRO	AJ52604	10/25/05	10/26/05	"	ND "	50	
Surrogate: Tetratetracontane	8015DRO	AJ52816	10/28/05	11/01/05		44.1 %	20-152	
Surrogate: Toluene-d8	8260GRO	AJ52604	10/25/05	10/26/05		105 %	86-141	
Volatile Organic Compounds by EPA Method	d 8260B							
Benzene	EPA 8260B	AJ52613	"	10/26/05	1	ND ug/l	0.30	
Toluene	"	"	"	"	"	ND "	0.30	
Ethylbenzene	"	"	"	"	"	ND "	0.50	
Xylenes (total)	"	"	"	"	"	ND "	0.50	
Surrogate: Bromofluorobenzene	"	"	"	"		120 %	78-138	
Surrogate: Dibromofluoromethane	"	"	"	"		101 %	71-136	
Surrogate: Toluene-d8	"	"	"	"		105 %	88-139	

QA (A510440-03) Sample Type: Water Sampled: 10/18/05 12:45

TPH by EPA/LUFT GC/GCMS Methods

 ${\it The results in this report apply to the samples analyzed in accordance with the chain}$ of custody document. This analytical report must be reproduced in its entirety.

Speaks

Sheri L. Speaks Project Manager

11/2/2005



208 Mason Street, Ukiah, California 95482

e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

#### CHEMICAL EXAMINATION REPORT

Page 4 of 13

**ENSR International** 

10411 Old Placerville Rd., Suite 210 Sacramento, CA 95827-2508

Attn: Paul Wadding

Report Date: 11/02/05 13:05

06940-264-130/813 Project No: Unocal #0813, Ukiah Project ID:

Order Number

Receipt Date/Time

Client Code

A510440

10/18/2005 16:10

**ENSR** 

Client PO/Reference

		Alpha	Analytical	Laboratori	es, Inc.				
	METHOD	BATCH	PREPARED	ANALYZED	DILUTION	RESULT		PQL	NOTE
QA (A510440-03)			Sample Type	e: Water	Sam	pled: 10/18/05 12:4	15		
TPH by EPA/LUFT GC/GCMS Methods (	(cont'd)								
TPH as Gasoline	8260GRO	AJ52604	10/25/05	10/26/05	1	ND ug/l		50	
Surrogate: Toluene-d8	"	"	"	"		104 %	86-141		
Volatile Organic Compounds by EPA Met	hod 8260B								
Benzene	EPA 8260B	AJ52613	"	10/26/05	1	ND ug/l		0.30	
Toluene	"	"	"	"	"	ND "		0.30	
Ethylbenzene	"	"	"	"	"	ND "		0.50	
Xylenes (total)	"	"	"	"	"	ND "		0.50	
Surrogate: Bromofluorobenzene	"	"	"	"		118 %	78-138		
Surrogate: Dibromofluoromethane	"	"	"	"		101 %	71-136		
Surrogate: Toluene-d8	"	"	"	"		104 %	88-139		



208 Mason Street, Ukiah, California 95482

e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

#### CHEMICAL EXAMINATION REPORT

Page 5 of 13

**ENSR International** 10411 Old Placerville Rd., Suite 210

Sacramento, CA 95827-2508 Attn: Paul Wadding

Project No:

Report Date: 11/02/05 13:05 06940-264-130/813

Project ID:

Unocal #0813, Ukiah

Order Number

Receipt Date/Time

Client Code

Client PO/Reference

A510440

10/18/2005 16:10

**ENSR** 

### SourceResult Metals by EPA 200 Series Methods - Quality Control

Analyte(s)	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch AJ52513 - EPA 200.2 Hot Plate										
Blank (AJ52513-BLK1)				Prepared:	10/25/05 A	nalyzed: 10	0/27/05			
Lead	ND	0.0020	mg/l							
LCS (AJ52513-BS1)				Prepared:	10/25/05 A	nalyzed: 10	0/27/05			
Lead	0.102	0.020	mg/l	0.100		102	85-115			
LCS Dup (AJ52513-BSD1)				Prepared:	10/25/05 A	nalyzed: 10	0/27/05			
Lead	0.0939	0.020	mg/l	0.100		93.9	85-115	8.27	20	
Duplicate (AJ52513-DUP1)	Sour	ce: A51044	0-02	Prepared:	10/25/05 A	nalyzed: 10	0/27/05			
Lead	ND	0.0020	mg/l		ND				20	
Matrix Spike (AJ52513-MS1)	Sour	ce: A51044	0-02	Prepared:	10/25/05 A	nalyzed: 10	0/27/05			
Lead	0.0939	0.020	mg/l	0.100	ND	93.9	70-130			
Matrix Spike Dup (AJ52513-MSD1)	Sour	ce: A51044	0-02	Prepared:	10/25/05 A	nalyzed: 10	0/27/05			
Lead	0.0936	0.020	mg/l	0.100	ND	93.6	70-130	0.320	20	



208 Mason Street, Ukiah, California 95482

e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

#### CHEMICAL EXAMINATION REPORT

Page 6 of 13

**ENSR International** 10411 Old Placerville Rd., Suite 210 Sacramento, CA 95827-2508

Attn: Paul Wadding

Report Date: 11/02/05 13:05 Project No:

06940-264-130/813

Unocal #0813, Ukiah Project ID:

Order Number A510440

Receipt Date/Time 10/18/2005 16:10

Client Code **ENSR** 

Client PO/Reference

Metals (Dissolved) by EPA 200 Series Methods - Quality Control

Analyte(s)	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch AJ52401 - EPA 200.2 Hot Plate										
Blank (AJ52401-BLK1)				Prepared:	10/24/05 Aı	nalyzed: 10	/28/05			
Molybdenum, dissolved	ND	0.020	mg/l							
Selenium, dissolved	ND	0.0050	"							
Vanadium, dissolved	ND	0.010	"							
LCS (AJ52401-BS1)				Prepared:	10/24/05 Aı	nalyzed: 10	/28/05			
Molybdenum, dissolved	0.0999	0.020	mg/l	0.100		99.9	85-115			
Selenium, dissolved	0.0103	0.0050	"	0.0100		103	85-115			
Vanadium, dissolved	0.0978	0.010	"	0.100		97.8	85-115			
LCS Dup (AJ52401-BSD1)				Prepared:	10/24/05 Aı	nalyzed: 10	/28/05			
Molybdenum, dissolved	0.101	0.020	mg/l	0.100		101	85-115	1.10	20	
Selenium, dissolved	0.0107	0.0050	"	0.0100		107	85-115	3.81	20	
Vanadium, dissolved	0.100	0.010	"	0.100		100	85-115	2.22	20	
Duplicate (AJ52401-DUP1)	Sou	rce: A51044	0-01	Prepared:	10/24/05 Aı	nalyzed: 10	/28/05			
Molybdenum, dissolved	ND	0.020	mg/l		ND				20	
Selenium, dissolved	0.00421	0.0050	"		ND				20	
Vanadium, dissolved	ND	0.010	"		ND				20	
Matrix Spike (AJ52401-MS1)	Sou	rce: A51044	0-01	Prepared:	10/24/05 Aı	nalyzed: 10	/28/05			
Molybdenum, dissolved	0.0978	0.020	mg/l	0.100	ND	97.8	70-130			
Selenium, dissolved	0.00801	0.0050	"	0.0100	ND	80.1	70-130			
Vanadium, dissolved	0.0988	0.010	"	0.100	ND	98.8	70-130			
Matrix Spike Dup (AJ52401-MSD1)	Sou	rce: A51044	0-01	Prepared:	10/24/05 Aı	nalyzed: 10	/28/05			
Molybdenum, dissolved	0.0989	0.020	mg/l	0.100	ND	98.9	70-130	1.12	20	
Selenium, dissolved	0.00809	0.0050	"	0.0100	ND	80.9	70-130	0.994	20	
Vanadium, dissolved	0.0996	0.010	"	0.100	ND	99.6	70-130	0.806	20	

 ${\it The results in this report apply to the samples analyzed in accordance with the chain}$ of custody document. This analytical report must be reproduced in its entirety.



208 Mason Street, Ukiah, California 95482

e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

#### CHEMICAL EXAMINATION REPORT

Page 7 of 13

**ENSR International** 

10411 Old Placerville Rd., Suite 210 Sacramento, CA 95827-2508

Attn: Paul Wadding

Report Date: 11/02/05 13:05

06940-264-130/813 Project No: Unocal #0813, Ukiah Project ID:

Order Number

A510440

Receipt Date/Time 10/18/2005 16:10

Client Code **ENSR** 

Client PO/Reference

Metals by EPA 6000/7000 Series Methods - Quality Control

Analyte(s)	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch AJ51907 - EPA 7199 Cr6 Water										
Blank (AJ51907-BLK1)				Prepared &	Analyzed:	10/19/05				
Chromium, hexavalent	ND	0.0010	mg/l							
LCS (AJ51907-BS1)				Prepared &	Analyzed:	10/19/05				
Chromium, hexavalent	0.00448	0.0010	mg/l	0.00400		112	80-120			
LCS Dup (AJ51907-BSD1)				Prepared &	Analyzed:	10/19/05				
Chromium, hexavalent	0.00450	0.0010	mg/l	0.00400		112	80-120	0.445	20	
Duplicate (AJ51907-DUP1)	Sour	ce: A51044	0-01	Prepared &	Analyzed:	10/19/05				
Chromium, hexavalent	ND	0.0010	mg/l		ND				30	
Matrix Spike (AJ51907-MS1)	Sour	ce: A51044	0-01	Prepared &	x Analyzed:	10/19/05				
Chromium, hexavalent	0.00409	0.0010	mg/l	0.00400	ND	102	70-130			
Matrix Spike Dup (AJ51907-MSD1)	Sour	ce: A51044	0-01	Prepared &	z Analyzed:	10/19/05				
Chromium, hexavalent	0.00414	0.0010	mg/l	0.00400	ND	104	70-130	1.22	20	

 ${\it The results in this report apply to the samples analyzed in accordance with the chain}$ of custody document. This analytical report must be reproduced in its entirety.

Speaks

Sheri L. Speaks Project Manager

11/2/2005



208 Mason Street, Ukiah, California 95482

e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

#### CHEMICAL EXAMINATION REPORT

Page 8 of 13

**ENSR International** 

10411 Old Placerville Rd., Suite 210 Sacramento, CA 95827-2508

Attn: Paul Wadding

Report Date: 11/02/05 13:05 06940-264-130/813

Project No:

Project ID:

Unocal #0813, Ukiah

Order Number A510440

Receipt Date/Time 10/18/2005 16:10

Client Code **ENSR** 

Client PO/Reference

#### Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control

Analyte(s)	Result	PQL Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch AJ51922 - General Preparation									
Duplicate (AJ51922-DUP1)	Sourc	e: A510444-05	Prepared &	& Analyzed:	10/19/05				
рН	7.97	1.0 pH Units		7.9			0.882	20	
Batch AJ52610 - General Preparation									
Blank (AJ52610-BLK1)			Prepared:	10/26/05 A	nalyzed: 10	/28/05			
Oil & Grease (HEM-SG)	ND	5.0 mg/l							
LCS (AJ52610-BS1)			Prepared:	10/26/05 A	nalyzed: 10	0/28/05			
Oil & Grease (HEM-SG)	8.00	5.0 mg/l	10.0		80.0	66-114			
LCS Dup (AJ52610-BSD1)			Prepared:	10/26/05 A	nalyzed: 10	0/28/05			
Oil & Grease (HEM-SG)	7.70	5.0 mg/l	10.0		77.0	66-114	3.82	24	

 ${\it The results in this report apply to the samples analyzed in accordance with the chain}$ of custody document. This analytical report must be reproduced in its entirety.

Sheri Speake

Sheri L. Speaks Project Manager

11/2/2005



208 Mason Street, Ukiah, California 95482

e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

#### CHEMICAL EXAMINATION REPORT

Page 9 of 13

**ENSR International** 10411 Old Placerville Rd., Suite 210 Sacramento, CA 95827-2508

Attn: Paul Wadding

Report Date: 11/02/05 13:05 06940-264-130/813 Project No: Unocal #0813, Ukiah Project ID:

Client Code

Client PO/Reference

Order Number A510440

Receipt Date/Time 10/18/2005 16:10

**ENSR** 

### TPH by EPA/LUFT GC/GCMS Methods - Quality Control

Analyte(s)	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch AJ52604 - VOAs in Water GCMS										
Blank (AJ52604-BLK1)				Prepared &	k Analyzed:	10/25/05				
TPH as Gasoline	ND	50	ug/l							
Surrogate: Toluene-d8	27.3		n .	25.0		109	86-141			
LCS (AJ52604-BS1)				Prepared &	k Analyzed:	10/25/05				
TPH as Gasoline	197	50	ug/l	200		98.5	75-126			
Surrogate: Toluene-d8	27.4		"	25.0		110	86-141			
LCS Dup (AJ52604-BSD1)				Prepared &	k Analyzed:	10/25/05				
TPH as Gasoline	191	50	ug/l	200		95.5	75-126	3.09	20	
Surrogate: Toluene-d8	27.4		"	25.0		110	86-141			
Matrix Spike (AJ52604-MS1)	Sour	ce: A51042	7-01	Prepared &	k Analyzed:					
TPH as Gasoline	212	50	ug/l	200	ND	106	32-166			
Surrogate: Toluene-d8	27.5		"	25.0		110	86-141			
Batch AJ52816 - EPA 3510B Water										
Blank (AJ52816-BLK1)				Prepared:	10/28/05 A	nalyzed: 11	/01/05			
TPH as Diesel	ND	50	ug/l							
Surrogate: Tetratetracontane	35.0		"	162		21.6	20-152			
LCS (AJ52816-BS1)				Prepared:	10/28/05 A	nalyzed: 11	/01/05			
TPH as Diesel	1570	50	ug/l	2000		78.5	52-136			
Surrogate: Tetratetracontane	103		п	162		63.6	20-152			
LCS Dup (AJ52816-BSD1)				Prepared:	10/28/05 A	nalyzed: 11	/01/05			
TPH as Diesel	1210	50	ug/l	2000		60.5	52-136	25.9	25	QL-04
Surrogate: Tetratetracontane	82.6		"	162		51.0	20-152			

 ${\it The results in this report apply to the samples analyzed in accordance with the chain}$ of custody document. This analytical report must be reproduced in its entirety.

Sheri Speake



208 Mason Street, Ukiah, California 95482

e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

#### CHEMICAL EXAMINATION REPORT

Page 10 of 13

**ENSR International** 

10411 Old Placerville Rd., Suite 210 Sacramento, CA 95827-2508

 ${\it The results in this report apply to the samples analyzed in accordance with the chain}$ 

of custody document. This analytical report must be reproduced in its entirety.

Attn: Paul Wadding

Report Date: 11/02/05 13:05

06940-264-130/813 Project No:

Unocal #0813, Ukiah Project ID:

Order Number A510440

Receipt Date/Time 10/18/2005 16:10

Client Code **ENSR** 

Client PO/Reference

TPH by EPA/LUFT GC/GCMS Methods - Quality Control

Spike Source %REC RPD Result %REC Limits Analyte(s) Result **PQL** Units Level RPD Limit Flag

Batch AJ52816 - EPA 3510B Water



208 Mason Street, Ukiah, California 95482

e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

#### CHEMICAL EXAMINATION REPORT

Page 11 of 13

**ENSR International** 10411 Old Placerville Rd., Suite 210 Sacramento, CA 95827-2508

Report Date: 11/02/05 13:05 06940-264-130/813 Project No:

Attn: Paul Wadding

Project ID:

Unocal #0813, Ukiah

Order Number A510440

Receipt Date/Time 10/18/2005 16:10

Client Code **ENSR** 

Client PO/Reference

### Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte(s)	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch AJ52613 - VOAs in Water GCMS										
Blank (AJ52613-BLK1)				Prepared &	k Analyzed:	10/25/05				
Benzene	ND	0.30	ug/l							
Toluene	ND	0.30	"							
Ethylbenzene	ND	0.50	"							
Xylenes (total)	ND	0.50	"							
Surrogate: Bromofluorobenzene	29.3		"	25.0		117	78-138			
Surrogate: Dibromofluoromethane	25.0		"	25.0		100	71-136			
Surrogate: Toluene-d8	27.3		"	25.0		109	88-139			
LCS (AJ52613-BS1)				Prepared 8	k Analyzed:	10/25/05				
Benzene	11.0	0.30	ug/l	10.0		110	68-129			
Toluene	11.6	0.30	"	10.0		116	76-137			
Ethylbenzene	12.3	0.50	"	10.0		123	78-136			
Xylenes (total)	33.0	0.50	"	30.0		110	76-134			
Surrogate: Bromofluorobenzene	27.6		"	25.0		110	78-138			
Surrogate: Dibromofluoromethane	23.2		"	25.0		92.8	71-136			
Surrogate: Toluene-d8	26.2		"	25.0		105	88-139			
LCS Dup (AJ52613-BSD1)				Prepared &	k Analyzed:	10/25/05				
Benzene	10.8	0.30	ug/l	10.0		108	68-129	1.83	25	
Toluene	11.6	0.30	"	10.0		116	76-137	0.00	25	
Ethylbenzene	12.3	0.50	"	10.0		123	78-136	0.00	25	
Xylenes (total)	33.2	0.50	"	30.0		111	76-134	0.604	25	
Surrogate: Bromofluorobenzene	28.4		"	25.0		114	78-138			
Surrogate: Dibromofluoromethane	23.4		"	25.0		93.6	71-136			
Surrogate: Toluene-d8	26.8		"	25.0		107	88-139			

 ${\it The results in this report apply to the samples analyzed in accordance with the chain}$ of custody document. This analytical report must be reproduced in its entirety.



208 Mason Street, Ukiah, California 95482

e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

#### CHEMICAL EXAMINATION REPORT

Page 12 of 13

**ENSR International** 

10411 Old Placerville Rd., Suite 210 Sacramento, CA 95827-2508

Attn: Paul Wadding

Report Date: 11/02/05 13:05

06940-264-130/813 Project No: Unocal #0813, Ukiah Project ID:

Order Number A510440

Receipt Date/Time 10/18/2005 16:10

Client Code **ENSR** 

Client PO/Reference

#### Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte(s)	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch AJ52613 - VOAs in Water GCMS										
Matrix Spike (AJ52613-MS1)	Source	e: A51049	6-01	Prepared &	α Analyzed:	10/25/05				
Benzene	11.8	0.30	ug/l	10.0	ND	118	39-142			
Toluene	12.1	0.30	"	10.0	ND	121	44-148			
Ethylbenzene	13.0	0.50	"	10.0	ND	130	42-148			
Xylenes (total)	35.1	0.50	"	30.0	ND	117	43-145			
Surrogate: Bromofluorobenzene	27.5		"	25.0		110	78-138			
Surrogate: Dibromofluoromethane	22.6		"	25.0		90.4	71-136			
Surrogate: Toluene-d8	25.8		"	25.0		103	88-139			





208 Mason Street, Ukiah, California 95482

e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

### CHEMICAL EXAMINATION REPORT

Page 13 of 13

**ENSR International** 

10411 Old Placerville Rd., Suite 210 Sacramento, CA 95827-2508

Attn: Paul Wadding

Report Date: 11/02/05 13:05 06940-264-130/813 Project No:

Unocal #0813, Ukiah Project ID:

Order Number A510440

Receipt Date/Time 10/18/2005 16:10 Client Code **ENSR** 

Client PO/Reference

**Notes and Definitions** 

QL-04 The LCS/LCSD RPD for this analyte was outside of established control limits. Batch accepted based on

acceptable recovery for both LCS/LCSD.

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

Sample results reported on a dry weight basis dry

**RPD** Relative Percent Difference

POL Practical Quantitation Limit

# BSK ANALYTICAL

Sheri L. Speaks Alpha Analytical Laboratories Inc 208 Mason Street Ukiah, CA 95482

**BSK Submission #: 2005101453 BSK Sample ID #: 649508** 

Project ID: A510440

Project Desc:

Submission Comments:

Sample Type:

Liquid

Sample Comments:

Sample Description: A510440-01 MW-1

J flags on DISS SE, V, MO

Certificate of Analysis **NELAP Certificate #04227CA ELAP Certificate #1180** 



Date Sampled: 10/18/2005 Time Sampled: 1400

Date Received:

10/20/2005

Inorganics							<b>n</b>	Analysis
Analyte	Method	Result	Units	PQL	Dilution	DLR	Prep Date/Time	Date/Time
Bromate (BrO3) with Ag/Ba Clean	EPA 300.1	ND	mg/L	0.005	1	0.005	10/28/05	10/28/05
Up Bromide (Br)	EPA 300.1	0.022	mg/L	0.005	1	0.005	10/24/05	10/24/05

mg/L: Milligrams/Liter (ppm) mg/Kg: Milligrams/Kilogram (ppm)  $\mu$ g/L: Micrograms/Liter (ppb) μg/Kg: Micrograms/Kilogram (ppb) %Rec: Percent Recovered (surrogates)

Waller Harrison

Waller Branch

PQL: Practical Quantitation Limit DLR: Detection Limit for Reporting : PQL x Dilution

ND: None Detected at DLR

H: Analyzed outside of hold time

P: Preliminary result

S: Suspect result. See Case Narrative for comments.

E: Analysis performed by External laboratory. See External Laboratory Report attachments.

Page 1 of 2

1414 Stanislaus Street Fresno, CA 93706-1623 Phone 559-497-2888, In CA 800-877-8310

Sheri L. Speaks Alpha Analytical Laboratories Inc 208 Mason Street Ukiah, CA 95482

BSK Submission #: 2005101453 BSK Sample ID #: 649509

Project ID: A510440

Project Desc:

Submission Comments:

Sample Type:

Liquid

Sample Description: A510440-02 MW-2

Sample Comments:

**Certificate of Analysis NELAP Certificate #04227CA ELAP Certificate #1180** 



Report Issue Date: 11/01/2005

Date Sampled: 10/18/2005

Time Sampled: 1245

Date Received: 10/20/2005

Inorganics								
Analyte	Method	Result	Units	PQL	Dilution	DLR	Prep Date/Time	Analysis Date/Time
Bromate (BrO3) with Ag/Ba Clean Up	EPA 300.1	0.016	mg/L	0.005	1	0.005	10/28/05	10/28/05
Bromide (Br)	EPA 300.1	0.023	mg/L	0.005	1	0.005	10/24/05	10/24/05

mg/L: Milligrams/Liter (ppm) mg/Kg: Milligrams/Kilogram (ppm) μg/L: Micrograms/Liter (ppb) μg/Kg: Micrograms/Kilogram (ppb)

%Rec: Percent Recovered (surrogates)

Report Authentication Code:

PQL: Practical Quantitation Limit DLR: Detection Limit for Reporting : PQL x Dilution

ND: None Detected at DLR

pCi/L: Picocurie per Liter \*649509-0.0390\*

H: Analyzed outside of hold time

P: Preliminary result

S: Suspect result. See Case Narrative for comments.

Fax 559-485-6935

E: Analysis performed by External laboratory. See External Laboratory Report attachments.

Page 2 of 2

		1		2.
and the control of th	 	1 4 373 364	and the second	were a suidant.

# **CHAIN OF CUSTODY**

Page <u>1</u> of

Lab: Alpha Analytical

															TAT: Standard	
Report results to: Name Company Mailing Address City, State, Zip Telephone No. Fax No.	Margret Rig ENSR 10411 Old F Sacramento 916-362-71 916-362-81	Placerville F o, CA 9582 00		210			P	\nal <sub>1</sub>	yse	s Re		Site ENS Uno Glob	Add SR N cal I	lress: lo.	mation  122 Leslie St., Ukiah, CA  06940-264-130  813  T0604593441	
E-Mail	mriggin@ensr.com									(300.0)		(200.7)				
Special instructions and/or	₃ ×∝Date	ory requireme  Time Sampled	nts:  Matrix/ Media	No of Conts.	TPHg (8015)	BTEX (8021B)	ТКРН (1664)	Total Lead (6010)	TPHd (8015)	Bromate (300) / Bromide	Chromium VI (7199)	Molybdenum / Vanadium	Selenium (200.9)	pH (150.1)	A 510 440 - Sample Condition/Comments	Preservative
MW-1	10/12/05	1400,	GW	12	X	Х	Х	X	X	X	X	X	X	X		HCI/HNO3
MW-2	10/90S		GW	10	X	Х	Х	Х	X		Х	Х	Х	Х	2	HCI/HNO3
QA	19705		Liquid	1	X	Х									3	Ice
			•												X	
Collected by: Relinquished by: Relinquished by: Method of Shipmen	1508 (Z.		Date/Time Date/Time Date/Time	<del></del>	12	161	0	Red Red	ceiv ceiv	or's ed b ed b e Co	y: y:		\	Rcpt:	Date/Time 10/10 Date/Time 10/10 Date/Time	265140 